The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 679.—Vol. XVIII. LONDON, SATURDAY, AUGUST 26, 1848. [Price 6d.

WEST BASSET.—TO BE SOLD BY PUBLIC AUCTION, at the MINE, on Monday, the 28th inst., at Three o'clock in the afternoon, in one lot, all that MINE, called WEST BASSET, and the MATERIALS thereon, consisting of a 36-inch cylinder STEAM-ENGINE, with boiler, about 10 tons; 100 fathoms of 10-inch pitwork, and a variety of other articles, all in good condition.

The mine is situate in the parish of Illogan, in the county of Cornwall—west of South Wheal Basset—north of and adjoining South Wheal Francis.

For inspection of the mine and materials, apply to the agent thereon; and for further particulars, to Captain William Richards, Redruth. 1

Dated August 8, 1848.

WEST WHEAL MARIA MINE, near TAVISTOCK.— TO BE SOLD, BY AUCTION, by FRANCIS A. DAVIS, on Tuesday, the 5th Sept., 1848, at Eleven o'clock in the forenoon, at WEST WHEAL MARIA MINE, in the parish of LAMERTON, near TAVISTOCK, the whole of the valuable

MATERIALS OF THE SAID MINE:—Comprising

31	9-feet 9-inch pumps	73	Fathoms 2½-inch iron horizontal rods
2	6-feet 9-inch ditto		A quantity of pulleys and stands
24	9-feet 12-inch ditto	2	Pairs shaft tackle, with pulleys, complete
4	6-feet 12-inch ditto		
8	9-feet 7-inch ditto	50	Fathoms ¾-inch whim chain
2	10-feet 8-inch working barrels		Sundry other chains
1	10-feet 6-inch ditto	2	Pairs of excellent shears, with sheaves and brasses, complete
2	9-feet 9-inch windbores		
1	9-feet 11-inch ditto	2	Superior capstans
1	6-feet 11-inch ditto		About 20 fathoms 2-inch bucket-rods
1	9-feet 7-inch ditto	30	Fathoms 1¼-inch ditto
2	6-feet 9-inch doorpieces and doors	2	Very good horse whims
1	5-feet 11-inch ditto		A quantity of strapping-plates, bolts, burs, yokes, and glands, &c.
1	6-feet 11-inch ditto		
1	4-feet 7-inch ditto		Ditto, pump rings
1	3-feet 12-inch H-piece	120	Fathoms ladders
1	3-feet 8-inch ditto	2	Horse-whim kibbles
1	11-inch plunger pole, with case, stuffing-box and gland	4	Winze ditto
			About 2 tons new iron
1	8-inch ditto ditto		A quantity of useful and scrap iron
60	Fathoms 11-inch main rods	90	Fathoms of dividing and casing timber
120	Fathoms 11-inch capstan rope, nearly new (by Chubb)	120	Feet of Norway balk (new)
		107	Feet of American (ditto)
40	Fathoms 9-inch ditto		Lot of useful timber
150	Fathoms whim rope		40-inch smiths' bellows (nearly new)
	Main, balance, and angle-bobs		Smiths' anvil, horse, and vice,

Set of screw plates and taps, from ¼-inch to 2-inch (new), large beam scales and weights, pair screw bevils, screw stock, several pairs buckets, with valves, &c., a large quantity of miners' and smiths' tools, 2 very superior double and single blocks, with brass sheaves, pair triangles, a great many fathoms of wood air-pipes, grindstone and frame, carpenter's bench, smiths and miners' chests, 6 miners' shovels (new), 2 cwts. sump gasket, 1 hide bend of leather, a quantity of nails, of different sizes, small scales and weights, office desk, 2 counting-house tables, register grate, with a variety of useful articles for mining and other purposes.—Also, a very superior powerful STEAM PUMPING-ENGINE, 40-inch single cylinder, 9-feet stroke, 71-horse power, with a 11-ton boiler, made by Messrs. Fox and Co., from the drawings of Mr. William West—quite new in every particular only two years since.

The auctioneer feels confident, that, in recommending the above materials to the notice of mine agents and others, he can do so with perfect safety, inasmuch as of his own knowledge, he can state that nearly the whole has been purchased new—regardless of cost, within the last two years. He also respectfully solicits an early attendance, as he purposes, if practicable, to dispose of the whole in one day.

The mine is situate about four miles from Tavistock, and adjoins the celebrated Devon Great Consols.

Refreshments will be provided.

County Fire and Provident Life Offices, West-street, Tavistock, August 16, 1848.

TO IRONMASTERS AND MANUFACTURERS OF STEAM-ENGINES, BOILERS, CASTINGS, RAILS, BAR-IRON, &c. &c.— MILTON IRON-WORKS.—TO BE LET, for a term of 21 years, and may be entered upon the 1st of October next, all those old-established IRON-WORKS, called

THE MILTON IRON-WORKS,

Situate near to the ELSECAR COAL-FIELD, and the TANKERSLEY PARK IRONSTONE GROUNDS, and at a convenient distance from the manufacturing towns of Sheffield, Rotherham, and Barnsley, in the county of York. The works consist of

TWO BLAST-FURNACES, with every requisite appendage.

FORGE and MILL, with puddling and other furnaces, chafery for drawing uses, rolling and slitting-mills, &c., capable of manufacturing from 90 to 100 tons of finished iron per week.

FOUNDRY, with pits, drying-stoves, and every requisite apparatus for making engine work and castings, of every description, to the extent of 100 tons per week.

ENGINE-FITTING SHOPS, with lathes, boring and planing machines, boiler-makers' and smiths' shops, and every requisite for carrying on engine and railway work to a large extent. Together with an ample supply of

ELSECAR COALS and TANKERSLEY PARK and SWALLOW-WOOD IRONSTONE, on terms to be agreed upon.

The works possess, at present, excellent canal and river communication, and will shortly have the advantage of the South Yorkshire Railway.

N.B.—Although the owner of the works would not absolutely restrain the lessees from making and manufacturing hot-blast iron, yet he would prefer treating with parties who would undertake to make and manufacture cold-blast iron only.

For further particulars apply to Mr. Newman, of Darley Hall, near Barnsley; or Mr. Woodhouse, of Overseal, near Ashby-de-la-Zouch.

Darley Hall, near Barnsley, June 15, 1848.

TO BE SOLD, OR LET, a valuable COAL MINE, in the township of GREAT HARWOOD, in the county of Lancaster. The mine has been recently proved, and found to be 3 feet 2 inches in thickness, and of excellent quality; it is commonly called, or known, by the name of the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots.

The property is situated between the towns of Blackburn and Clitheroe, and is intersected by a branch of the East Lancashire Railway.

A section of the borings may be seen, by applying to Mr. Boosie, Rufford-hall, Ormskirk; or to Mr. Whittle, coal viewer, Charnock Richard, Chorley—to either of whom proposals may be sent.

FOURDRINIER'S PATENT SAFETY APPARATUS, for PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS.

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.:

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.
2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.
3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 9, College-place, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

VALUABLE INVESTMENT.—PARTNERSHIP OR LICENSES FOR DISTRICTS OR ENTIRE COUNTIES.

Under British and Foreign Letters Patent.

HUTCHISON & CO.'S INDURATED AND IMPERVIOUS STONE, CHALK, SAND, PLASTER OF PARIS WORKS, CARTON ROOF SHEETING, AND WOOD, &c.

The produce supersedes all other building and decorative materials, for richness of effect, cheapness, and perfect durability.—Specimens to be seen at the chief offices, East Temple Chambers, 2, Whitefriars-street, Fleet-street, London; also at the Indurated Sandstone Works, Tonbridge Wells, Kent; or *à la Maladrérie*, near Caen, France.

All particulars afforded at H. and Co.'s offices; or of Mr. William Hutchison, Castle Hotel, Tonbridge Wells, Kent.

PATENT GALVANISED IRON AND WIRE ROPE WORKS, *MILLWALL, POPLAR.*

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

ROYAL GEOLOGICAL SOCIETY OF CORNWALL.— The THIRTY-FIFTH ANNUAL MEETING of this Society will be HELD in the MUSEUM, on Friday, the 6th October next, at noon.—The officers and council will assemble in the same place at Eleven o'clock.

It is respectfully requested that communications, intended for the meeting, may be forwarded to us at the earliest convenience of the authors. By order,

SAMUEL PIDWELL, } Secretaries
L. R. WILLAN, }

N.B.—The usual Ordinary will be held at the Western and Mount's Bay Hotel, at Three o'clock.—Penzance, August 14, 1848.

STATISTICS OF COAL.—The GEOGRAPHICAL and GEOLOGICAL DISTRIBUTION of FOSSIL FUEL, or MINERAL COMBUSTIBLES employed in the arts and manufactures; their production, consumption, commercial distribution, prices, duties, and international regulations in all parts of the world, including 400 statistical tables, and 1100 analyses of mineral bituminous substances, with incidental statements of the statistics of iron manufactures. Derived from official reports and accredited authorities. Illustrated with coloured maps and diagrams.

By RICHARD COWLING TAYLOR, F.G.S., &c., &c.,
Author of *Index Monasticus, in the Ancient Kingdom of East Anglia.*
8vo., pp. 754—£1 10s.
London: John Chapman, 142, Strand.

NOTICE.—TREDGOLD ON THE STEAM-ENGINE.— New and much improved edition. Part I., with plates, price 2s. 6d., Sept. 1.—Beginning with locomotive engines.—John Weale, 59, High Holborn.

*** Prospectuses and show-boards may be had by the trade.

Just published, price 8s.,
Dedicated, by permission, to Joseph Locke, Esq., M.P., F.R.S., and J. E. Errington, Esq., M. Inst. C.E.—the Third Edition of

MR. DAY'S PRACTICAL TREATISE ON THE CONSTRUCTION OF RAILWAYS—comprising the most improved systems of, and expenses attending, Excavating, Haulage, Embanking, &c.—Drainage of Earthworks; also, Fencing Bridges and Culverts, Permanent Waylaying, &c., illustrated with suitable diagrams and useful tables. To which is added,

A COMPREHENSIVE SET OF EARTHWORK TABLES.

"This volume contains a great deal of useful matter."—*Civil Engineers' and Architects' Journal.*—"A very useful work."—*Railway Times.*—"All the elements which enter into the formation of railways are carefully considered."—*Midland Counties Herald.*—"Cannot fail to be useful both to the practical man and to the director of railways."—*Liverpool Mercury.*

London: John Weale; Simpkin, Marshall & Co.; and sold by all booksellers.

RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be FORWARDED, and CONTRACTS entered into, or LICENSES GRANTED for its ERECTION, on application to Mr. Moulton, Bradford, Wilts.

TIMBER PRESERVING COMPANY.—(PAYNE'S PATENTS FOR THE PRESERVATION OF TIMBER AGAINST DRY ROT, FIRE, RAVAGES OF WORMS, &c.

The above company are ready to ENTER into ARRANGEMENTS for the PREPARATION OF TIMBER, at any of their under-mentioned stations—viz.:

Whitehall Wharf, Westminster	Barnstaple	Guildford
Fleetwood-on-Wyre	Leicester	Southampton
Wisbeach	Lynn	Hartlepool
Gateshead	Staines	Darlington

And they will erect the necessary apparatus, wherever there is a considerable quantity of timber to be prepared.

Further particulars, with prices, may be obtained at the London Works, Whitehall Wharf, Cannon-row, Westminster.

BIRMINGHAM AND OXFORD JUNCTION RAILWAY.— Notice is hereby given, that the next ORDINARY MEETING of the shareholders of the BIRMINGHAM AND OXFORD JUNCTION RAILWAY will be HELD at Dee's Royal Hotel, in Temple-row, Birmingham, on Wednesday, the 30th day of August inst., at Two o'clock in the afternoon.—The transfer books of the company will be closed from and after the 21st day of August inst., until after the day of the meeting.

Proxy papers, in order to be available, must bear a stamp of 2s. 6d., and must be received by the secretary 48 hours, at least, before the time appointed for the meeting.

P. H. MUNTZ, Chairman.
34, Bennett's-hill, Birmingham, August 12, 1848. J. W. KIRSHAW, Secretary.

BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY RAILWAY.—Notice is hereby given, that the next ORDINARY MEETING of the shareholders of the BIRMINGHAM, WOLVERHAMPTON, and DUDLEY RAILWAY COMPANY will be HELD at Dee's Royal Hotel, in Temple-row, Birmingham, on Wednesday, the 30th day of August, 1848, at Twelve o'clock at noon.

The transfer books of the company will be closed from and after the 21st day of August until after the day of the meeting.

Proxy papers, in order to be available, must bear a stamp of 2s. 6d., and must be received by the secretary 48 hours, at least, before the time appointed for the meeting.

WILLIAM MATHEWS, Chairman.
JOHN WILLIAM KIRSHAW, Secretary.
34, Bennett's-hill, Birmingham, August 9, 1848.

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.—KIRTON TUNNEL.

TO RAILWAY CONTRACTORS, ENGINE BUILDERS, MILLERS, SEED CRUSHERS, COLLIERY OWNERS, AGRICULTURISTS, AND OTHERS.

TO BE SOLD, BY PRIVATE CONTRACT, FOUR NON-CONDENSING HORIZONTAL STEAM-ENGINES, from 10 to 20-horse power, by excellent builders.

ONE 8-horse CONDENSING ENGINE, by Boulton and Watt.

A quantity of WINDING GEER, suitable for tunnel pits or colliery work.—The engines and winding geer to be sold together or separately.

The above engines will be found in good working order, not having done much work, and are only to be sold as the work is now completed for which they were erected.

Also, a quantity of TIMBER CENTREING, GILLS, PLANKS, SKIPS, LORREYS, ROPES, and other MATERIALS and MACHINERY used in tunnelling.

To inspect the engines, &c., apply to the manager, on the works, at Kirton; and for further particulars to Mr. Stephenson, Railway Office, Gainsborough, Lincolnshire.

Railway Office, Gainsborough, August 1, 1848.

PARIS AND LYONS RAILWAY.—The decree of the French National Assembly, on the 16th inst., relative to the settlement of this railway, which was duly published in the *Moniteur Universel* of the 20th inst, stipulates—

That for each share on which 250 f. have been paid, there shall be delivered in exchange French 5 per Cent. Rentes of 7 f. 60 c., with dividend from 22d March last. Also,

That any shareholder who is desirous of continuing the payments on his shares, may pay the remaining 250 f. at the periods mentioned in the said decree; after which payments he will become entitled to French 5 per Cent. Rentes, of 25 f. per share; but that, to avail himself of this, notice must be given in Paris, at the company's office, on or before the 31st inst.

Messrs. M. M. ROTHSCHILD & SONS, in consequence of this decree, beg to apprise the public, that they are ready to RECEIVE SHARES of the above company for TRANSMISSION to PARIS, to exchange them for French 5 per Cent. Rentes, of 7 f. 60 c. each; also, to remit the money in case the holders wish to make the remaining payments, and to receive 25 f. Rentes per share for the 500 f. paid in full.

For further particulars apply at their counting-house.

New-court, St. Swithin's-lane, August 22, 1848.

EMERSON'S PATENT LIQUID CEMENT.—This VALUABLE and ECONOMIC PAINT is READY FOR USE—is simple in its application, and only *one-sixth* the cost of *oil paint*; for beauty, it is pre-eminent over all other materials used on the fronts of houses—giving the exact appearance of FINE CUT STONE. It can be used at once on fresh Roman cement, or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.

*** Sold in casks of 1 and 2 cwts., at 8s. and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES and BOTTOMS; also for all kinds of WOOD or METAL WORK, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railings, and all kinds of out-door work; and, being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay; requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING FELT, of the best quality, at 1d. per square foot, in pieces, 25 yards long and 32 inches wide.—GEORGE LEAR & CO., Sole Agents for the Patentees, 5, Church-court, Clement's-lane, Lombard-street.

PATENT FLEXIBLE INDIA-RUBBER PIPES AND TUBING, for Railway Companies, Brewers, Distillers, Fire-Engines, Gas Companies, Gardening and Agricultural purposes, &c.,

THE PATENT VULCANISED INDIA-RUBBER HOSE-PIPES

are made to stand *hot liquor* and *acids*, without injury—do not become *hard* or *stiff* in any temperature (but are always perfectly flexible); and as they require NO APPLICATION of oil or dressing, are particularly well adapted for *Fire Engines, Pumps, Gas, Beer-Engines, Gardens*, and all purposes where a *perfectly Flexible Pipe* is required.

Made all sizes, from ¼-inch bore upwards, and of any length to order.

Vulcanised India Rubber Garden Hose, fitted with brass-taps, Copper branch and Rose's complete, ready to be attached to pumps, water-butts, or cisterns.

Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-Rubber Washers, of all sizes, for joints of hot-water and steam-pipes, and *Vulcanised Sheet Rubber*, any thickness, for all kinds of joints, and other purposes.

EAST OF SCOTLAND MALLEABLE IRON COMPANY.— The EAST OF SCOTLAND MALLEABLE IRON COMPANY are now MAKING BAR-IRON, ANGLE-IRON, RAILS, TRAM-PLATES, and, in a short time, will be making BOILER-PLATES.—From the excellent quality of the coal in the district, as well as from attention to the manufacture, the iron turned out is of the best quality, being well suited for purposes where toughness is required.

The iron is delivered either in the neighbourhood, or shipped free on board at Charlestown Harbour.—For particulars of prices, &c., apply to the subscriber,

Dunfermline, August 24, 1848. HENRY CADELL, Manager.

MILL FOREMAN WANTED.—The VALENTIA SLATE COMPANY require an active intelligent FOREMAN, at their SLATE SAWING MILLS, in the island of VALENTIA, IRELAND. He must have been accustomed to the management of men working with machinery, and no regular fitter being employed, will be expected occasionally to assist in repairs.—Salary £180, and house room.

Applications, stating qualifications, to be addressed to Mr. Wm. Walton, clerk of the company, 4, Trafalgar-square, London.

LEVEL STAFF FOR MINES.—An IMPROVEMENT has been made upon the LEVEL STAFF FOR MINES, by Mr. G. B. SIMPSON, of Derby, and may be had of Mr. Davis, optician, Derby.

VENTILATION OF COAL MINES—BIRAM'S PATENT ANEMOMETER.—This INSTRUMENT has now been SUCCESSFULLY EMPLOYED by many eminent engineers, to whom reference can be given.

For particulars, apply either to the inventor, B. Biram, Esq., Wentworth, near Rotherham; or to the maker, John Davis, Derby, manufacturer of miners' dials, clinometers, safety-lamps, and all kinds of instruments appertaining to the engineer, are made and kept in stock.—Repairs promptly attended to. J. DAVIS, Irongate, Derby.

ASSAYING.—Mr. R. F. MUSHET (son of the late eminent metallurgist, David Mushet, Esq.) ASSAYS IRON ORES and IRONSTONES, of all descriptions, at the charge of 7s. for each assay—giving the metallic contents of each ore with perfect accuracy.—Address: Coleford, Gloucestershire.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

SHARES IN VALUABLE MANGANESE, OCHRE, SILVER-LEAD, and COPPER MINES, FOR DISPOSAL.—PROSPECTUSES, containing full particulars, with form of application for shares, may be OBTAINED of George Gandell, Esq., stock and share broker, 1, Royal Exchange-buildings, London; Mr. John Downham, stock and share broker, Bury and Manchester; Mr. Joseph Clarke, jun., stock and share broker, Southampton; Messrs. J. D. Redmond and Co., 22, Exchange-street East, Liverpool; and at the offices of the company, 20, Great Marlborough-street, Regent-street, London. JOHN GATES, Secretary.

WEST UNITED HILLS MINE.—SHARES FOR SALE, at TWENTY-FIVE SHILLINGS per SHARE—the purchaser paying the last call of £3.—Apply to William Trenery, mining agent, 9, St. Michael's-alley, Cornhill.

MINING OFFICES—Established Five Years.— THOMAS P. THOMAS begs to inform his friends and the public, that he has REMOVED from No. 18, Threadneedle-street, to No. 3, GEORGE-YARD, LOMBARD-STREET, LONDON (late Messrs. Phillips and Tiplady's).

N.B.—Dealer in English and Foreign Funds, Mining, Railway, Gas, and other shares.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities.

WILLIAM W. TAYLOR & CO., MINERAL SURVEYORS, MINING SHAREBROKERS, &c.,
No. 2, ROYAL EXCHANGE-BUILDINGS, LONDON.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.*

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

MONEY.—MESSRS. KILLICK & CO. (late Winstanley, Killick, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England.

BANWEN IRON COMPANY.—Notice is hereby given, that the next ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Monday, the 28th day of August inst., at One o'clock precisely. By order,

23, Threadneedle-street, August 15, 1848. S. P. HARRIS, Secretary.

NATIONAL BRAZILIAN MINING ASSOCIATION.— The ADJOURNED MEETING of the shareholders of this association will be HELD at the London Tavern, Bishopsgate-street, on Monday next, the 28th instant, at Twelve for One precisely, to proceed in the consideration of the report of the committee.

THOMAS CORNEY, Chairman of the Committee.
26, Throgmorton-street, August 22, 1848.
Shareholders will be required to exhibit their shares at the door.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that a DIVIDEND of FIVE SHILLINGS per share will be PAYABLE at the office of the association, on and after Wednesday next, the 2d of August, between the hours of Eleven and Three.—Forms for claiming the dividend may be obtained at the company's office, and must be left two clear days, for examination, previous to payment. By order of a court of directors,

5, Finsbury-circus, London, July 26, 1848. JOHN MATHER, Secretary.

*** The holders of scrip shares will not be entitled to receive the dividend until their shares are registered.

CORNWALL NEW MINING COMPANY.

Capital £100,000, divided into 20,000 shares, of £5 each.
Deposit, £1 per share.
Three further calls, of 10s. per share, at 6, 12, and 18 months.

Incorporated in pursuance of the Statute of 7 and 8 Victoria, cap. 110.

Bankers—London and County Bank, 21, Lombard-street.

The CORNWALL NEW MINING COMPANY is ESTABLISHED to WORK a series of TIN and COPPER MINES, chiefly in the district of ST. IVES, which has hitherto afforded a larger profit on its return of ore than any other part of the county.

In pursuance of this plan, five have been already selected—viz.: Georgia Tin Mines, Trewortha Tin and Copper Mine, Bray Tin and Copper Mine, Trevarno Tin and Copper Mine, and Wheal Squire Tin and Copper Mine—with whose owners the directors have succeeded in making such advantageous arrangements, as to enable them to work one or more with even a small portion of the proposed capital.

The directors beg to announce, that they are NOW ALLOTING the SHARES in the above company; and, from the number already disposed of, they request parties desiring to take shares to make early application. Those to whom allotments have been made, are requested to pay their deposits into the bankers of the company, as above.

The Deed of Settlement having been executed by the required number of shareholders to incorporate the company, parties who now take shares will not be required to sign it, or enter into any personal liability for calls or otherwise, although restricting their full rights as shareholders.

Office, 17, Essex-street, Strand. GEO. LOCKWOOD, Secretary.

STEAM TO INDIA AND CHINA, via EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, No. 122, Leadenhall-street, London.

STEAM TO ITALY, DIRECT FROM SOUTHAMPTON TO GENOA, LEGHORN, AND CIVITA VECCHIA.—The PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S next STEAMER to the above ports, will be dispatched from SOUTHAMPTON on TUESDAY, the 29th of AUGUST, at 2 P.M. This vessel has been fitted expressly for first-class passengers and their servants.—Horses and carriages taken on deck.—Private cabins can be secured by early application.

Rates of passage and plans of the vessel may be obtained at the company's offices, 122, Leadenhall-street, London.—London, August 15, 1848.

On the Winning and Working of Collieries.

BY MATTHIAS DUNN, MINING ENGINEER.

[No. XIII.—*Continued from the Mining Journal of the 29th July.*]

Winning.—As a practical illustration of the "winning" of a colliery by the application of engines, pumps, tubbing, &c., I may give some remarks upon the sinking of the Preston Grange Pit, East Lothian, being the first metal tubbing applied in Scotland, and for which I had the honour of receiving a silver medal from the Edinburgh Society of Arts.

The main shaft was 10 ft. in diameter, 4½ ft. being bratticed off for ventilation, the pumping apparatus, and the sinking commanded by a pumping engine capable of raising 400 gallons of water per minute, also an associate winding engine. Gins, crabs, five-fold ropes and sheaves, and other apparatus for hanging and working the pumps, were duly provided. No sooner had the sinking arrived at the depth of 7 fms., than a feeder of water of 200 gallons per minute was met with, which required to be tubbed off, and which was accordingly done, by affixing wedging curbs, after the manner previously described, with a suitable quantity of tubbing, in segments 4 ft. long by 2 ft. high, and three-eighths of an inch thick, the whole being outset by walling. As expected, the water which had forsaken the neighbouring wells again returned to its channel, and discharged itself at the surface. The sinking was then resumed, and at the depth of 22 fms. the shaft intersected the fissure of a trouble, which gave out a new feeder, consisting of 300 gallons per minute, and it was not till the shaft had reached the depth of 28 fms., that a suitable water-tight stone could be selected, wherein to fix the two wedging curbs for another tub; but as there was reason to believe that this water also would rise to the surface level, it became necessary either to join it to the other tub, or to affix it top and bottom in water-tight stone by means of wedging curbs, which latter mode was adopted, having first widened the shaft to receive the tub and wedging curbs, so as to preserve an uniform finished size. The curb which surmounted the tub was held firm by a succession of wooden stays against the superior rock, after which the wedging was completed, and all this water was stopped, save a few small streamlets, which were collected into boxes, and conveyed down the shaft. On account of the additional pressure, the thickness of this tub was increased to half an inch. The sinking was then resumed with little interruption, till at the depth of 36 fms. a similar feeder demanded the application of a third tub, 4 fms. in length. At this period the sinking set had been hung upon ground ropes, but a thin seam of coal induced the converting it into a standing set, 31 fms. long, which was done by excavating a space for the reception of a cistern, which was fixed upon strong buttons across the shaft; at the same time the hitherto common pump was replaced by a forcing set with ram, the barrel being bestrode by a pair of iron rods, for the working of the intended hanging pumps underneath the forcing barrel. In the fixing of this set, the clack-door was found to interfere so closely with the tub as to require artificial space for the changing of the clack. This was effected by an egg-shaped recess, made to form a portion of the tub, and which was 5 ft. long and 3 ft. high, projecting outwards from the pit, and in which recess a person might station himself to change the clack. Considerable apprehension was entertained of this part of the tub withstanding the expected pressure, which would amount to 68 lbs. per square inch, for the aggregate pressure upon the bulb was 65 tons, bearing especially upon the junction of the two sweeps. No sooner was all finished, and the water began to attain its full pressure, than the mouth of the bulb showed signs of weakness, by a chink of 12 in. in length; the pressure was immediately eased, and four inside segments of cast-iron, 8 in. broad and 2 in. deep, were fitted accurately to the sweep of the orifice of the bulb, which being keyed closely up, answered completely the desired purpose.

The second column of pumps now became the hanging set, and the sinking proceeded to the depth of 44 fms., where 4½ fms. of tubbing were required to stop back water to the extent of 350 gallons per minute. These segments were increased in thickness to five-eights and six-eights, with still deeper flanches. Here a new difficulty occurred, from a considerable discharge of carbonic acid gas with the water, which affected the eyesight of the sinkers, and so operated against the tightening of the tub, that at one time it was feared air-pipes to the surface would have been necessary, to discharge the gas. As all the waters were derived from an origin considerably above the level of the shaft top, the pressure upon the last mentioned tub, at 264 ft. perpendicular, exceeded 120 lbs. upon every square inch of its surface, and as the surface contained an area of 768 square feet, it sustained a pressure of 6000 tons. Little additional water was met with below this point; but at the depth of 55 fms. the second column of pumps was converted into a fixed set, by establishing another cistern, and the third column was attached in its turn, as the sinking set. At the end of two years the coal was sunk through 70 fms. in depth, at which period the total water did not exceed 50 gallons per minute, or one-eighth part of the engine-power.

The shaft being completed to the mine, it must be continued an indefinite distance further as a sump, to provide standage for the water; and as this is a necessary portion of mining economy, it is often advantageous to carry out driftings in stone or coal, so as to secure a reservoir of at least a few days or weeks accumulation—not only in point of economy, but also the better to provide against casualities which may be attended with unexpected influx of water, or of the suspension of the pumping power by unforeseen accidents. This sump, then, ought to be spacious, and be secured with walling, if necessary. This done, a strong scaffold of beams of timber is affixed at the bottom of the seam, the brattice is carried down and completed, and the necessary height and accommodation made at the shaft bottom for dispatching the coals; where the roof stone is brittle, strong timbering, or arching with stone, is required.

Whilst the preparation is going on underground, the top of the pit must also be prepared for the dispatch of business, and, according to the north country fashion of the present day, must be provided with spacious screens—apparatus for weighing the coals in the colliers' tubs, as well as coal waggons. The top of the shaft, for a considerable distance round, must be covered with plates of iron, and all appendages completed for the rapid conveyance of the tubs to and from the shaft mouth. Many collieries also require an apparatus for the rescreening of the small coal. Where shafts are sufficiently roomy, it is common to see two tubs alongside each other in the same cage, but when much contracted, one tub above the other, the departments of the cage being kept quite distinct. The formation of these screens is varied according to the views of the artificer, or the peculiar requirements of the coal; but in general they are erected 16 ft. to 20 ft. in height, fitted up with bars of iron half an inch apart, with convenient slope, so as to enable the coals to slide easily into the waggons below. To guard against breakage, stoppers are hung at intervals to interrupt the coals in their descent on to the platform below, or into the waggons. The small coal which passes through the screen bars, is either delivered into waggons for immediate sale, or accumulated in heaps, or hoisted up and rescreened, into rough, small, and dust, by the apparatus before mentioned, which consists of a screen highly elevated—the small coals being drawn up an inclined plane by a chain movement from the winding engine.

Of late years a new and important trade has opened for the small coal, in the formation of coke for the use of locomotive engines, iron-works, breweries, &c., at home, and for general consumption abroad; indeed, so rapid and important has been the increase of this trade, that many collieries have erected apparatus for crushing their large coal into small, the better to effect the production of coke; of course the erection of coking ovens in that case becomes contingent, and which consists of a succession of domes of various forms, which are lined with fire-brick, and contain, according to the most approved practice, from 6 to 8 tons of coal each. According to the especial object of consumption, the coke is roasted from 50 to 80 hours, producing, according to the quality of the coal and the duration of the burning, from 10 to 12 cwt. of coke per ton of coal. The said ovens cost from 30*l.* to 40*l.* each, and the value of the coke varies from 8*s.* to 10*s.* per ton at the place of delivery.

[*To be continued in next week's Mining Journal.*]

PATENT IMPROVEMENTS IN THE MANUFACTURE OF GAS.—Messrs. John Watson, and Edward Cart, of Hull, have recently patented an invention, the object of which is to combine the ordinary hot-air stove with a gas-producing apparatus, so as that the supply of material, from which gas is evolved to the retort, shall be regulated by the quantity of gas already produced and contained in the gasometer. This is effected by placing the retort in the stove, and causing the jointed pipe which conveys the liquid from which gas is to be evolved into the retort, to pass close to the gasometer. The portion of the pipe near the gasometer is fitted with a cock, which is connected by rods with the top of the gasometer, in such manner that it shall close gradually as the gasometer rises, until it has reached its limit, when the supply of liquid will be entirely cut off from the retort, and, on the other hand, that as the gasometer falls the cock shall be turned, and the retort supplied.

The Metallurgical Treatment of Ores.

By JOHN MITCHELL, Esq., M.C.S., author of *A Manual of Practical Assaying, &c. &c.*

No. XXVI.—[*Continued from August 13.*]

PREPARATION OF PURE ARSENIURET OF NICKEL.—It has been determined by Berthier, that the preparation of pure oxide of nickel is very simple, when a pure arseniuret is operated upon instead of speiss. When speiss is fused with suitable proportions of litharge, nitrate of lead, sulphate of lead, or nitrate of potash, all foreign bodies are readily oxidated, and a pure arseniuret is the result; for these various re-agents act on all the metals contained in speiss, in order of their oxidisability—so that copper, iron, cobalt, or antimony are oxidised, and found in the flux; whilst nickel and arsenic form the fused metallic mass at the bottom of the crucible. When speiss is to be purified by litharge, it is reduced to a fine powder, and mixed with twice its weight of the latter substance: the mixture is placed in a crucible, and heated, as rapidly as possible, to a full red heat. When cold there is found in the crucible a button of lead, one of speiss (arseniuret of nickel), exactly similar in appearance to the original substance, and a blackish or blueish grey slag, containing the oxides of the foreign metals, together with some oxide of nickel. If the new speiss yet contains cobalt, it must be re-fused with one or two parts of litharge; it will then be perfectly pure; 100 parts of commercial speiss furnish about 50 to 60 parts of pure arseniuret. The slags, and especially those of the second treatment, must be carefully collected, and heated, with 5 or 6 per cent. of charcoal, in a crucible; a button of lead and a new speiss is thus obtained—the latter can be purified as above. If nitrate of lead be employed, one part will suffice for a like quantity of speiss; in this case no metallic lead is obtained, but merely a button of pure arseniuret and a slag; litharge, however, gives the best results. Oxide of nickel is prepared in the same manner from the arseniuret as oxide of cobalt is prepared from the corresponding compound of that metal. The following process, contrived by Wöhler, appears to be the most simple of all; it is based on a well-known property arsenic possesses, of forming double sulphurets, which play the part of an acid, with alkaline sulphurets:—One part of very finely-pulverised kupfernickel is mixed with three parts of carbonate of potash, and a like quantity of sulphur; the mixture is placed in a crucible, and very gradually heated for some time, in order to avoid any portion being thrown over the sides, from too rapid an evolution of carbonic acid, after which the heat is carried to redness, until the mixture is perfectly fused. It is then poured out, and, when cold, pulverised, and treated with water. The double sulphuret of arsenic and potassium dissolves, and sulphuret of nickel is deposited in the form of crystalline scales, possessing a fine golden colour and metallic lustre. If the ore contained only arsenic and nickel, the separation is perfect; but iron, copper, and cobalt, also pass into the state of sulphurets, and remain with the nickel. If the ore contained antimony, that metal, on the contrary, accompanies the arsenic; in either case, however, the sulphuret of nickel so obtained is washed by decantation with hot water, and then dissolved in a mixture of nitric and sulphuric acids, and the treatment already described resorted to.

TREATMENT OF THE ORES OF IRON.—In discussing the treatment of the ores of this most valuable metal, it will be necessary to enter more minutely into the subject than with the ores of any other metal yet described in this series of papers. With this end in view, the author will give, as far as is at present known, the composition of all the raw materials employed, as the ores, coals and limestone, together with the chief of the physical and chemical properties of the varieties of iron produced in commerce, as well as of absolutely pure iron.

Properties of Pure Iron.—The preparation of perfectly pure iron is a somewhat difficult matter. The following is the method employed by the author:—Pure peroxide of iron was prepared by precipitating a solution of perchloride of iron by an excess of ammonia; the precipitate was then perfectly washed with distilled water, and dried out of contact of dust. The dried oxide was then placed in a tray, formed of platinum foil, and that again in a tube of hard glass, to which was adapted an apparatus, to furnish a current of dry hydrogen gas. The gas was passed, for a short time, over the oxide, and then the tube was surrounded with burning charcoal, and the whole kept at a red heat, until no more aqueous vapour was given off—that being an indication of the complete decomposition of the oxide by the hydrogen gas; the burning charcoal was then removed, the current of gas still passing, until the tube was perfectly cold. In effecting this reduction, great care must be taken to expose the oxide of iron to as intense a heat as the glass can bear, without falling out of shape. If the reduction takes place below a red heat, the metallic iron produced possesses the property of becoming incandescent on exposure to air, owing to rapid absorption of oxygen. A crucible is now to be prepared for the fusion of the spongy iron, by lining the inside with a thick coating of pure peroxide of iron—then, as rapidly as possible, transferring the contents of the tube, and covering the whole with more peroxide, so that the metallic iron is completely surrounded by that substance, and perfectly out of contact with the sides of the crucible, from which it might derive many impurities, after which a cover is to be luted on. The crucible is now to be placed on a piece of firebrick, in a good wind furnace, and the fire gradually raised, taking care to keep the fuel well about the crucible, and as it burns away to add more. It is best to add fresh coke before that in the furnace has sunk below the upper part of the pot—for, by that method of feeding, the crucible always remains at the highest possible temperature. If the furnace is in good condition, about three hours is sufficient for the fusion of the metal; it is, however, better to allow it to remain in at least four hours, then remove it, and allow it to cool perfectly, when, on breaking the crucible, a button of perfectly pure iron will be obtained. Broling prepared a very nearly pure iron, by fusing the best commercial malleable iron in contact with oxide of iron; but the iron he procured must have retained aluminum, silicon, calcium, &c., and was, therefore, only an alloy, instead of a perfectly pure metal. It could not have contained carbon, as that would have been removed by contact at a red heat with the oxide, a portion of which would have been reduced at its expense. The object of fusing the spongy iron in contact with pure oxide of iron, is to prevent the possibility of obtaining an alloy; for if it were fused in a naked crucible, the metallic iron would, by its great attraction for oxygen at such a high temperature, decompose the material of which the crucible was formed; and the liberated metals—as aluminum, calcium, as well as silicon—would have alloyed with the iron; this, evidently, is entirely prevented by the coating of oxide. The iron thus prepared was submitted to a most rigid and careful qualitative analysis, but not the slightest trace of any impurity could be detected; a given weight of it, converted into peroxide, gave very nearly the theoretical amount, so that there could be no doubt of its absolute purity. Pure iron possesses an almost silvery whiteness, with a perceptible blueish tinge; it is much softer than the finest malleable iron, and seems less fusible. It has a kind of scaly, laminated fracture, with a distinct, although rather confused, appearance of crystallisation. Its specific gravity was found, from the mean of many careful experiments, to be 7·8443, which is very near that obtained by Broling—7·8439. It has a distinct, although weak, taste, and smell; it is more powerfully susceptible of magnetism than any other metal. Before entering into the properties of other classes of iron, as ordinary malleable and cast-iron, it will be proper to give the compositions of the raw materials employed in the manufacture.

Properties and Composition of the Ores of Iron.—Most of the accompanying analyses, not by the author, are collated from Berthier's *Traité des Essais*, Beudent's *Mineralogie*, Brard's *Mineralogie Appliquès aux Arts*, and Karsten's *Metallurgie du Fer*.

Native Iron has been found at Canaan, in Connecticut, as also at Bedford, in Pennsylvania; that at Connecticut was met with in thin threads, in a quartz rock, or in layers, in micaceous schist; the structure is crystalline, and specific gravity about 6·72; it appeared to contain no foreign metal, but was mixed with graphite. The specimen from Bedford was malleable and crystalline, being made up of small rhombohedral prisms; the specific gravity was 7·837; it contained ·1500 of arsenic, and ·400 of graphite.

Meteoric Iron.—This generally occurs in isolated masses, and contains nickel, chromium, and sometimes cobalt; and Stromeyer has stated he has found molybdenum and copper. Prof. Pallas found a mass in Siberia possessing a vesicular structure, and containing crystals of crysolite; and Don Rubin de Celis found a mass, weighing 15 tons, in the district of Chaco Gualamba, in South America. The following are some analyses of this species of iron:—

1. *Iron found in Siberia, by Pallas (John).*—Iron, 90·0; nickel, 7·5; cobalt, 2·5=100.
2. *Iron from Santa Rosa, near Santa Fé de Bogota (MM. Riviero and Boussingault).*—Iron, 91·2; nickel, 8·2; stony matters, ·8=99·7.
3. *Iron from Toluca, near Mexico.*—Iron, 91·4; nickel, 8·6=100.
4. *Iron from Ellebogen (John).*—Iron, 87·5; nickel, 8·7; cobalt, 1·9; chromium and manganese, 1·9=100.
5. *Iron from Atacama (Turner).*—Iron 93·40; nickel, 6·618; cobalt, ·535 =100·553.
6. *Iron from Louisiana (Shepard).*—Iron, 90·02; nickel, 9·674=99·694.
7 and 8. *Iron from Brahin (Laugier).*—

	No. 7.	No. 8.
Iron	91·50	87·35
Nickel	1.50	2·50
Chromium	traces	·50
Sulphur	1·00	1·35
Silica	3·00	6·00
Magnesia	2·00	2·10
	99·00	100·30

9. *A Specimen from Siberia (Klaproth).*—Iron, 98·6; nickel, 1·2=99·8.

Oxygen Compounds of Iron—Peroxide of Iron—Specular Iron Ore—Micaceous Iron Ore.—This variety occurs, in very large quantities, in the Isle of Elba, where it is said to have been worked for the last 3000 years. It occurs also in Saxony, Norway, Sweden, South America, and Siberia. It is met with in some of our Cornish mines, at Tavistock, in Devonshire, and Dunkeld, Perthshire. The stalactitic and fibrous varieties are employed to make burnishers, and the ochreous in painting, known as red ochre; the more argillaceous form red crayons.

Red Hæmatite is another form of peroxide of iron; is found, in large quantities, in the Hartz, Saxony, Bohemia, at Ulverstone, in Lancashire, and many parts of England and Scotland.

The composition of chemically pure peroxide of iron is—iron, 69·34; oxygen, 30·66=100; but the best crystallised varieties I have found to contain traces of phosphoric acid, and sometimes considerable quantities of manganese, the purest containing not more than 99 per cent. of peroxide. The following analysis will show how much this variety of ore differs in composition; and all prove that the whole of them cannot be successfully submitted to the same treatment in the furnace. Before, however, entering into the analyses, it will be as well to mention another important branch of this family—viz.: the brown, or hydrated, hæmatites, also known under the name of hydrous oxide of iron, limonite, and brush ore. This variety also occurs in many places.

1. *Micaceous Ore from Mount St. Bernard.*—Peroxide of iron, 58·0; silica, 42·0=100.
2. *Compact Ore from the Department of the Moselle.*—Peroxide of iron, 99·0; oxide of manganese, ·4; clay, ·4=99·8. This specimen was nearly pure.
3. *Specimen of Crystallised Ore by the Author.*—Peroxide of iron, 99·32; phosporic acid, ·31; oxide of manganese, 1·8; alumina, ·17=99·98.
4. *Ferruginous Schist from Cherbourg.*—Peroxide of iron, 73·8; oxide of manganese, 3·4; silica, 12·8; alumina, 2·4; carbonate of lime, 6·0=98·4.
5. *Granular Ore from Bohemia.*—Peroxide of iron, 62·0; oxide of manganese, 9·0; silica, 21·0; alumina, 4·8; water, 3·2=100.
6. *Calcareous Oolitic Oxide from Monte de Lazac.*—Peroxide of iron, 44·0; clay, 6·0; carbonate of lime, 50·0=100.
7. *Compact Ore from La Voulte (Ardèche).*—Peroxide of iron, 66·0; oxide of manganese, 2·5; silica, 16·8; alumina, 12·0 carbonate of lime, 4·4; carbonate of magnesia, 3·7; water, 2·8=98·2.
8. *Specimen of Hæmatite, in fine Crystalline Scales, which when rubbed between the fingers, produced a stain like Plumbago: by the Author (locality unknown).*—Peroxide of iron, 83·610; silica, 11·421; alumina, 2·184; lime, 1·206; magnesia, ·280; phosphoric acid, ·628; potash, ·142; soda, ·098; oxide of magnanese, ·317=99·886.
9. *Specimen of Ore from Fouta-Diallon in Upper Senegal.*—Peroxide of iron, 77·2; silica, 2·8; alumina, 8·2; water, 11·4; oxide of chromium and titanium, trace=99·6.
11. *Ore from Stirling, Massachusets (Thomson).*—Peroxide of iron, 75·5; oxide of manganese, 22·5; water, ·4; oxide of chromium and titanium, 1·2=99·6.
12. *Ore from the neighbourhood of Ulverstone, by the Author.*—Peroxide of iron, 70·614; silica, 27·908; magnesia, ·189; phosphoric acid, ·081; lime, ·214; alumina, ·510; sulphuric acid, ·400; potash, soda, & manganese, traces=99·914.
13. *An Ore from Cornwall, by the Author.*—Peroxide of iron, 60·00; alumina, 7·20; silica, 22·00; lime, 7·10; magnesia, 3·07; arsenious acid, ·13; oxide of manganese, ·31; potash and soda, traces=99·81.
14. *Another Specimen from Cornwall, by the Author.*—Peroxide of iron, 54·12; silica, 24·81; magnesia, 5·20; lime, 7·14; alumina, 7·42; phosphoric acid, ·68; potash and soda, ·42; tin, zinc, and manganese, traces=99·79.

Hydrated Hæmatites.—1. *Ore from Mandorf, by Mœllinghoff.*—Peroxide of iron, 60·0; water, 15·0; silica, 12·0; alumina, 13·0 = 100.

2. *Specimen from Restormel Mine, near Lostwithiel, by Lieut.-Col. P. J. Yorke.*—Silica, ·28; water, 10·07; peroxide of iron, 89·55; oxide of manganese, ·6 = 100·06.

3. *Another Specimen from Cornwall, by the same Analyst.*—Silica, 2·42; water, 14·28; peroxide of iron, 82·16; sesquioxide of manganese, 1·13; alumina and tin, traces = 99·99.

4 *Another Specimen by the same Analyst, from Wansiedel.*—Silica, 1·46; water, 12·42; peroxide of iron, 85·80; sesquioxide of manganese, 1·30 = 100·98.

5. *Ore from Longwy (Berthier).*—Peroxide of iron, 85·1; water, 12·2; clay, 2·7 = 100. Iron produced by assay, 61·5 per cent.

6. *Ore from Rancié (Arriège), Berthier.*—Peroxide of iron, 82·2; oxide of manganese, 3·6; water, 12·2; clay, 2·0 = 100.

7. *Ore from Penne (Vanquelin).*—Oxide of iron, 48·0; water, 6·0; silica 15·0; alumina, 31·0 = 100.

8. *Granular Ore from Hægau (Klaproth).*—Peroxide of iron, 53·0; water, 14·5; oxide of manganese, 1·0; silica, 23·0; alumina, 6·5 = 98.

9. *Granular Ore from Berri (d'Aubuisson).*—Peroxide of iron, 70·0; water, 15·0; silica, 6·0; alumina, 7·0; oxide of manganese, trace, = 98.

10. *Specimen of Ore by the Author.*—Peroxide of iron, 85·615; protoxide of iron, 1·820; magnesia, ·084; alumina, ·230; potash, ·384; soda, 157; silica, 2·343; water, 9·365; oxide of manganese, traces = 99·998.

11. *Compact Hydrate from Bendorf (right bank of the Rhine).*—Peroxide of iron, 67·0; oxide of manganese, 1·8; water, 10·2; silica, 18·6 = 97·6. Iron obtained by assay, 47.

12. *Compact Hydrate from Pennsylvania.*—Peroxide of iron, 51·2; oxide of manganese, 2·8; water, 10·0; alumina, 2·0; silica, 34·0 = 100. Iron produced by assay, 36·5.

13. *Ore from Vandenesse (Department de la Nièvre).*—Peroxide of iron, 50·0; water, 7·0; silica, 42·5 = 99·5.

14. *Ore from Faverolle (Carrèze).*—Peroxide of iron, 76·3; oxide of manganese, ·3; water, 12·4; phosphoric acid, 1·4; clay, 9·6 = 100. Iron obtained by assay, 58·6.

[The treatment of iron ores will be continued in next week's Journal.]

THE MANUFACTURE OF STEEL ON THE RHINE.

The iron ore found in this highland district, and which is most abundant near the Sieg and in the valleys of the tributary streams which feed that river, is the sparry iron ore, a carburetted protoxide of iron. From the steely nature of the metal run from this ore, the mineral is called steelstone by the country people, and when puddled with charcoal, according to the custom of the country, steel is at once made from it without any cementing process. The same ore, if smelted with coke, gives a good white iron, but one of a less steely nature. Near Altena, the Messrs. Hundsdecker have long been famous for their raw and refined steel. It is the process of refining that occupies so many small hammers in this neighbourhood, and the method is the same that is known by the appellation of shearing at Sheffield. Strips of the raw steel are welded together with alternate strips of iron until the whole is beaten into a homogeneous mass, in the course of which process the carbon contained in superabundance in the raw steel is imparted to the strips of bar-iron that contain none, until the spread of the carbon is equalised. The mystery of steel making is amusingly kept up in England, where technical skill is so great as to defy all rivalry. In both Germany and France, where capital is not abundant, the theory is chiefly studied, although the practical skill is deficient. It is, however, a race between routine on the one side, and intelligence on the other, for the mastery. For some years experiments abroad have taken a direction quite opposed to the system that has been found so successful in England.

Steel being a combination of iron and carbon in certain proportions, there are two ways of getting at the combination. As cast-iron is more highly charged with carbon than steel, it may be possible to arrive at steel by extracting so much of the carbon as will leave the proportion desired. On the other hand, bar-iron, having lost all the mixture of carbon contained in pig-iron, by the processes of puddling and rolling which it goes through, must be recharged, if it is to become steel. This is done by what is called cementing at Sheffield. Bar-iron, mostly Swedish, is there charged with carbon until it becomes steel, and is, by hammering and rolling, refined and brought to a state of perfection. But in this way there appears to be two superfluous processes resorted to—that of quite decarbonising to make bar-iron, and that of recharging, or cementing, to put the carbon back again. The blister-steel, as it is called when so highly charged as to make the bars that have been cemented porous and blistering, stands something on a par with the raw steel of the Rhenish districts. We shall elsewhere describe the process of making the raw steel, and here merely remark that, when slit into strips and alternated in certain proportions with bar or decarbonised iron, it makes shear-steel, as the blister-steel of Sheffield does when treated in the same manner.

The superior quality of the steel made from Swedish iron shows, however, that there are qualities of iron which, independently of the admixture of carbon, make better steel than others. The Dannemora iron is mostly made from magnetic iron ore, and is free from many deteriorating additions, such as sulphur, copper, &c., which render it difficult to make good steel. The proportion of sulphur that is imbibed by all iron smelted with coke is what makes English bar-iron inferior to Swedish. On the other hand, the British empire doubtless contains, especially in India, all the materials required, and of the best description. When that country is thrown open to commercial enterprise by a change in its fiscal government, all European speculations may be expected to dwindle into insignificance. But with such an event, India would also present a new market, and the field for industry would be so much the more extended.

To return to the Rhine. A great variety of experiments have been made by scientific men and manufacturers to find a shorter and cheaper mode than the ordinary one for turning the iron of this country into steel. For some uses it is unsurpassed. For instance, the foils of Solingen are sent all over the world, as combining toughness with elasticity in the highest degree known. But for fine cutlery the high-priced steel of Sheffield is imported into Germany, and it has been found hitherto impossible to make a chisel of the German steel that will cut iron like an English chisel. Files are in the same manner imported from Sheffield, while sugar-knives and woodcutters' implements, for the back settlements in America, are in great demand at Solingen.

Mr. Vörster, of Elipe, near Hagen, has a method of decarbonising cast-iron to any extent he pleases, and has gained repeated proofs that he has the process quite at his command. Some specimen which he sent to the exhibition in Berlin in 1845, and which were afterwards shown at Liverpool, excited much surprise. It is said that the Prussian Government wished to buy the secret of him, but offered a very low sum for it, which the inventor declined. At the cast-steel factory of Burg, near Solingen, scissors and other implements of low quality are cast and turned out malleable, by the simple process of uniting the pig with bar-iron in the crucible in due proportions. This experiment was tried some time back at Sheffield with German charcoal iron, when a good kind of steel, to all appearance, was produced, but it was not followed up. In all probability however, many of the cheap wares sold as steel are made in this manner; their quality depends altogether on the iron used in the casting. We have noticed a cast-steel manufactory at Essen, belonging to Mr. Krupp, in which the English method of cementing bar-iron is retained. This steel is in great demand, and is often sold for English. There are few markets susceptible of so much extension as that of steel.—BANFIELD'S *Industry of the Rhine.*

A BRUISED FOOT CURED, AND AMPUTATION OF THE TOE PREVENTED, BY HOLLOWAY'S OINTMENT AND PILLS.—Mr. Oliver Smith Jenkins, of Falkirk, when superintending the erection of a railway bridge, had his foot severely bruised by the falling of a heavy stone. Apprehending that serious consequences would result from it, he consulted some of the most eminent surgeons in Edinburgh, who informed him, that to effect a cure two of his toes must be amputated. Refusing to submit to this, he returned to Falkirk, and commenced using Holloway's ointment and pills; and, miraculous as it may appear, these invaluable medicines healed his foot, and in three weeks he was enabled to resume his employment.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Mining Correspondence.

ENGLISH MINES.

ASHBURTON UNITED.—Captain J. Kernick (August 21) reports—The 25 fm. level, at Hobson's, is being driven south on the copper branch at 50s. per fm.; the appearances are much as last reported; this drift is fast entering the white killas, and is about 5 ft. north of the shoot of ore in Toy's winze. The 14 fm. level, west of Murray's shaft, has been driven through some tin ground, in which I have set a pitch at 10s. in 1*l.*; the cross-cut, under Maynard's pitch, is in the branches of the south tin lode. The tin pitches are the same as last reported.

BARRISTOWN.—Capt. Thomas Angove (August 18) reports—The lode in the 16 fm. level end east is about 18 inches wide, with a good mixture of ore through it, looking more regular. In the adit end east the lode is cut off by a slide, and the men are driving south, expecting to discover it. The lode in the winze, sinking behind the adit end, is about 2 ft. wide, with a good mixture of lead through a foot wide of it—not producing so much lead as last reported; this winze is down about 8 fms., and the feeder of water has now become heavy. The pitches are producing rather less ore than last reported.

BEDFORD UNITED.—Captain James Phillips (August 23) reports—At Wheal Marquis, the engine-shaft is 5 fms. under the 90 fathom level; in the 90 fm. level east we continue to drive by the side of the lode; in Hodges's pitch, in the back of this level, the lode is from 3 to 4 ft. wide—good work. In the 80 fathom level east the lode is from 3 to 4 ft. wide, producing about 3 tons of ore per fm.—a very promising lode indeed.

CWM ERFIN.—Capt. S. Nicholls (August 19) reports—In the stope, west of the engine-shaft, the lode is from 3 to 4 ft. wide, with a leader of good ore, from 4 to 5 in. big, and the remainder of the lode composed of some good strings of lead ore; I do not like to say anything about the quantity of ore to the fathom till another week; it runs very regular; it appears that the lode is to the south of the engine-shaft, which will be down by the end of this month, so as to drive to cut it. The 10 fm. level, east of the eastern shaft, has been driven 11 fms., and I had expected to meet with ore about that distance; the ground at present has a most promising appearance. In the 20 fm. level, west of whim-shaft, we have some spots of ore; the lode seems to get wider, and I think we shall soon have ore in the end. The men on tribute in the 10 fm. level, east of whim-shaft, are likely to have some good ore this month, the appearance being much in favour of such expectation. We are rather backward in the dressing of our ores, for want of machinery. We are short of jigging hatches, and also want means for returning our course stuff; but we are getting things ready for the purpose, and hope, in a fortnight, to get them in use. By the 28th of this month, we shall have 20 tons of ore at Aberystwith for sale.

DEAN PRIOR AND BUCKFASTLEIGH.—Capt. H. Choake (Aug. 23) reports—We have cut through the lode in the 30 fm. level to the north wall—being just of the same nature as stated in my last report; and have commenced cross-cutting south, to ascertain the size and quality of the lode; the prospects are very encouraging, having such a large, strong lode, composed of capel, calcareous spar, and a great quantity of mundic, and spotted with horse-flesh and yellow ore; the lode is laid open 8 ft. wide, but have not discovered the south wall. We have commenced cross-cutting in the 40 fathom level—driven 5 ft.; price for driving, 5*l.* per fm.; we shall get on with the dressing as fast as possible.

DEVON AND COURTENAY.—Capt. N. Seccombe (August 22) reports—The lode in the 40 fm. level, driving west, on the gossan lode, continues large, producing a great quantity of mundic and peach. In our end driving east, in the same level, on the south lode, it is 2 ft. wide, composed of mundic, peach, and spots of ore. In the past week we have driven through a small cross-course, which intersected the lode—to the east of which the lode is assuming a more regular and kindly appearance. In our 50 fm. level we have intersected a lode, 18 in. wide, on which we intend to open; but as this cannot be the gossan lode, we shall continue to cross-cut further, until we have intersected it. The ground continues favourable.

EAST CROWNDALE.—Captain S. Paull (August 19) reports—The lode in Diamond engine-shaft, at Rix Hill, is 3 ft. 6 in. wide, composed of capel, spar, elvan, peach, mundic, and spots of tin; the adit level, driving west on the course of the south lode, continues to look just the same as it has for several weeks past; the lode, or the part we are now carrying, is 7 ft. wide, composed of peach, prian, mundic, killas, and tin, and worth about 45*l.* per fm.; the lode in the stopes, in the back of this level, is 9 ft. wide, composed of peach, prian, mundic, killas, and tin, and worth about 20*l.* per fm.; we intend, in the next week, to stope off the south ground to the south wall of the lode, which has not as yet been satisfactorily seen; there has not as yet any material alteration taken place in the appearance of the north lode, the character and size of it being just as when last reported upon. In the past week we have cleared up an old men's pit on the course of the south lode, and find the lode upwards of 6 ft. wide, composed of peaeh, killas, prian, and tin, of an excellent quality; in this place, it will be necessary for us to sink a whim-shaft, in order to draw our tinstuff a great number of fathoms nearer the stamps, and for ventilation to the adit level; the lode, as at present, will a great deal more than pay for sinking the ground.

GREAT MICHELL CONSOLS.—Capt. T. Richards (August 23) reports—The lode in the 45 fm. level, east of the sump-winze, is composed of mundic, fluor, capel, and spar, with stones of ore in places. In the 35 fm. level, west of the sump-winze, the lode still presents a very encouraging appearance, containing mundic, peach, and spar, with ores intermixed throughout; in the level, east of the engine-shaft, the lode is without material alteration, containing mundic, capel, and spar, with good stones of ore.

GWINEAR CONSOLS.—Capt. Hugh Stephens (August 19) reports—The engine-shaft is sunk 5 fms. under the 20 fm. level—ground still hard. The 20 fm. end east is a very kindly lode, 2½ ft. wide, with some ore in it; and, from its appearance, an improvement is daily expected. The 20 fm. end west has not improved since my last—ground harder than usual. The 10 fm. end east is a lode 5 ft. wide, with good stones of ore in it. Stephen's shaft is still in a course of mundic.

HOLMBUSH.—Captain W. Lean (August 22) reports—The ground in the diagonal shaft, sinking below the 132 fm. level, is much the same as last reported on; the lode in the 132 fm. level, west of the shaft, is again disordered by several small cross-courses. The lode in the 120 fm. level south is 3½ ft. wide, composed of quartz, prian, and lead, and worth 5*l.* per fm.; the stopes, in the back of this level, are producing about 4 cwts. of lead per fm., and the men earning fair wages. The lode in the 110 fm. level south is 4 ft. wide, composed of quartz, prian, and lead—saving work; the lode in the stopes, in the back of this level, is 4 ft. wide, composed of quartz and stones of lead—ground favourable for exploring. The lode in the 100 south is 2 ft. wide, composed of spar, prian, and about 2 cwts. of lead per fm.—opening ground that will set at a moderate tribute.; the Flap-jack lode, in the same level east, is 20 in. wide, composed of mundic, spar, killas, and spots of copper ore. Within the last week, a small branch of copper ore, of good quality, was intersected between two parts of the lead lode, in a pitch in the bottom of the 100 fm. level, some fathoms to the north of the Flap-jack lode; it will produce about 1 ton of ore per fm. for 5 ft. long, and, no doubt, by-and-bye, we shall find it connected with the Flap-jack lode, for we know of no other near it for more than 50 fms.

KIRKCUDBRIGHTSHIRE.—The agent (August 19) reports—The lode in the 50 fm. level, west of Stewart's shaft, is 6 ft. wide, composed principally of calcareous spar, white gritty flookan, and porphyritic killas, with spots of lead disseminated throughout the spar; the north lode, in the same level, is about 2½ ft. wide, with a good stone of ore in some places, worth about 4 cwts. of lead per fm. The lode in the 40 fm. level, west of Keith's shaft, is 3½ ft. wide, containing jack and lead in small quantities. The lode in the 30 end, west of Keith's shaft, is also large, but at present unproductive; the winze, in the bottom of this level, has a kindly lode in it, about 3 ft. wide, worth about 8 cwts. of lead per fm. The lode in the 30 end, east of Stewart's shaft, is large, and the lead split up into strings through it, worth now 4 cwts. of lead per fathom. The men have finished cutting the plat at Keith's shaft, and will now commence sinking again.

LEWIS.—Capt. S. S. Noell (August 19) reports—The lode in the 70 east is 2½ ft. wide—unproductive; the lode in the 70, west from sump-shaft, on the south branch, is 6 in. wide, worth 4*l.* per fm.; the ground in the 70 south is a little more favourable than when last reported. The lode in the 60 east is 18 in. wide, producing some tin, and very promising; the lode in the 60 east, on the south branch, is 1 ft. wide, yielding some good work for tin; the lode in the 60 west, on the south branch, is split, being in a very disordered piece of ground, and is yielding but a small portion of tin; the lode in the winze, sinking under this level is 3 ft. wide, worth 35*l.* per fathom. In the 50 west, on the south branch, the lode is 6 in. wide, opening good tribute ground. In the 40 east, on the south branch, the lode is yielding fair quality tinstuff. The south lode, in the 20 east, is 10 in. wide, worth 6*l.* per fm.

MENDIP HILLS.—Capt. F. C. Harpur (August 21) reports—No alteration has taken place in the 38 fm. level since my last report; the lode continues about 2 ft. wide, composed principally of white spar and flookan, with a little iron—ground favourable for driving. In the slag department, we have worked the furnaces, during the past week, several days, the produce of which continues about the same as on former occasions—viz.: from 13 to 15 cwts. of metal per day; in the slag ground, I have again resumed removing the rubbish off the beds of slags, and, am pleased to say, we find an improvement in the quality of the work, as we proceed towards the eastern part of the valley. The carpenter and smith are at present engaged laying down a branch tram-road, in order to facilitate our progress in removing the slag work from the valley to the dressing-floors.

SOUTH WHEAL MARIA.—Capt. G. Francis (August 24) reports—From the underlay of the south lode at the surface, the 30 fm. level cross-cut has now reached it to within about 3 fms., but should it underlay less than it has been seen 30 fms. above, of course it will increase the length of the cross-cut. The men are driving upwards of 6 feet per week, and the ground has quite a mineral appearance, as we frequently find the killas heads faced with copper ore.

TAVY CONSOLS.—Capt. Goss (August 23) reports—The 46 fm. level is looking as before, and we expect to cut the main part of the lode before next setting-day. The stopes in the bottom of the 36 fm. level, are looking as well as ever we had any in the mine—rocks of ore, 3 cwts. in a rock, coming up. There is a change in the 24 fm. level, which we think is for the better.

TRENANCE.—Mr. Dalton (Aug. 23) reports—The deep adit south is much the same as last reported. I think we must be near holing in the Maria winze, the water having sunk in it about 5 ft. since last week; if a week or so will complete this work, all very well; it may, perhaps, be as well to finish it for the sake of the ore above it. The 12 fm. level south-west is looking rather better, and the ore is going down. The 20 fm. level north is improved—more grey ore. We have driven past the bottom of the winze about 12 ft.; it continues very hard.

TRELEIGH CONSOLS.—Captain W. Symons (August 19) reports—Garden's, below the 100, is sinking in the country; in part we have a lode nearly 4 ft. wide, underlying north—more kindly. In the 90, west of Garden's, the lode is 1 ft. wide—no mineral; the 90 east is cross-cutting south, to cut a south part of the lode. In the 70, west of ditto, the lode is about 1 ft. wide but little ore. In the 60, west of ditto, the lode is 10 in. wide, with good stones of ore, not to value. In the 50, west of ditto, the lode is 4 ft. wide—driving on the north part, which is spar and mundic. Wheal Parent engine-shaft, below the adit, is sinking in the country; the adit cross-cut, north of engine-shaft, is to cut Wheal Orphan lode. The lode which we have in Garden's shaft is the same as we have had for the last 10 ft. sinking; it is now nearly perpendicular, and has a much better appearance than we have seen before; no doubt but this is the south lode, which we have been cross-cutting for, and the one they have in Wheal Mary.

WEST WHEAL JEWEL.—Capts. Johns and Bray (August 21) report—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 3 ft. wide, worth 8*l.* per fm. In the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is 2½ ft. wide, worth 9*l.* per fm.; in the 57 fm. level, east of Williams's cross-course, on the same lode, the lode is 9 in. wide, producing stones of ore; in the rise, in the back of the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is 2½ ft. wide, worth 10*l.* per fm. In the 47 fm. level, west of Williams's cross-course, on the same lode, the lode is worth 4*l.* per fm.; in the deep adit, west of Hodges's cross-course, on the same lode, the lode is 1 ft. wide, unproductive. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, no lode has been taken down in the past week; in the deep adit, west of Quarry shaft, on the same lode, the lode is 18 in. wide, producing stones of tin. The stopes working by the tributers, east of Pryor's winze, in the back of the 12 fm. level, are worth 30*l.* per fm.; the stopes, west of Pryor's winze, in the back of the 12 fm. level, are worth 30*l.* per fm.; the stopes, in the bottom of the 12 fm. level, are working on tribute, worth 25*l.* per fm.

WHEAL SARAH.—Capt. J. Spargo (August 24) reports—The ground in Mayhew's shaft is still continuing favourable for sinking, and we are frequently intersecting large branches of barytes; the ground in the lobby is much softer for sinking than last week.

WHEAL ST. ANN.—Capt. John Penrose, Drewsteignton, Dev on (Aug. 23) reports—It is with pleasure I inform you, that this mine will, ere long, prove the gross absurdity of eminent men advancing the theory that there is not any copper ore east of Dartmoor; within the last few days I have cut two beautiful branches, composed of sugary spar, peach, prian, and yellow ore, of the finest quality. The engine-shaft has been sunk 34 fms., and we are now driving to intersect the three lodes before-mentioned; and, from the present favourable change in the stratum, I feel satisfied that I am fast approaching a valuable lode.

WHEAL TRELAWNY.—Capt. J. Bryant (August 22) reports—Phillips's shaft, sinking under the 62 fm. level, is still progressing favourably; the lode in the 62 fm. level north is worth 10*l.* per fm.; the lode in this level south is worth 7*l.* per fm.; the stopes, in the back of this level, are yielding a fair quantity of ore. The lode in the 52 north is worth 8*l.* per fm.; in this level south there is no material change since my last; the stopes, in the back of this level, are yielding a moderate quantity of ore. We have resumed driving the 42 end north, where the lode is worth 7*l.* per fm.; the lode in the rise, near this end, is worth 8*l.* per fm.; the stopes, in the back of this level, are much the same as last reported. At Trelawny's shaft, the ground is still favourable; the men are now engaged fixing a plunger-lift, and other work, which I hope will be completed by the end of this week. We have cut into the lode in the 52 cross-cut, west of this shaft, where it is 4 ft. wide, chiefly composed of can, with spar, mundic, and lead, and worth 6*l.* per fm. There is no change of importance in the 22 cross-cut east. At the north mine, the lode in the 30, north of Smith's, is 18 in. wide, and worth 4*l.* per fm.; we have no change of consequence in the winze south of the shaft. July ores (93 tons) were sold yesterday to B. Somers, Esq., at 14*l.* 15s. 6d. per ton, and I anticipate a greater quantity for August.

WHEAL TREHANE.—Capt. S. Richards (August 18) reports—The lode in the 55 fm. level south is 2 ft. wide, and worth 12 cwts. of lead per fm.; in the north end the lode is producing 9 cwts. of lead per fm.; we have driven in this level 16 fms. on the course of the lode, which has produced, on an average, about 15 cwts. of lead per fm., and the ground in both ends still continues favourable. In the 45 fm. level north, the lode is 2 ft. wide, and continues to produce 10 cwts. of lead fm.; the ground here, for several fathoms, has been rather tight for driving, but is now improved; the stopes, in the back of this level, are, on an average, worth 7 cwts. of lead per fm. The lode in the stopes, south of this level, at Phillips's shaft, is producing 10 cwts. of lead per fm.; in the winze sinking near the boundary, the lode is worth 5 cwts. of lead per fm. In the stopes in the bottom of the 30 fm. level north, the lode is producing some tolerable good work; in the cross-cut west, at this level (30), we are driving in favourable ground.

WHEAL VINCENT.—Capt. J. Spargo reports—There is no material alteration in the lode, driving on the deep adit, since last reported on; the ground in the south cross-cut is much softer, as well as a great deal more water gushing from the fissures of the caunters.

WHIDDEN.—Captain J. Kernick (August 21) reports—There is no alteration since my last, except that the caunter shaft is sinking below the deep adit, at 10*l.* per fm. The appearances in the shallow adit, driving east, are the same.

FOREIGN MINES.

ANGLO-MEXICAN MINES.—*Guanaxuato, July* 1.—*Asuncion.*—We have just cut the expected hilo, and I begin to hope that I shall more than make up for the losses of all the year; but, owing to the alarming revolution in this city, I have not been able to leave the Mint for some days; however, the moment that a political change takes place, I will run up to the Monte, and go down the pit, to inspect what we really have met with, and I will acquaint the board with the exact circumstances in my next letter. I now proceed, as usual, to furnish the customary monthly items of the mine:—

Week ending—	Memoria.	Sale.	Profit.	Loss.
June 3	$711 7 3	$817 3 0	—	$303 1 9
„ 10	467 2 9	798 1 0	—	68 2 3
„ 17	414 5 6	892 0 0	$ 31 2 6	—
„ 24	334 0 3	972 0 0	151 7 9	—
	$3479 4 0	$183 2 3		$371 4 0
Less				183 2 3
Total loss in the four weeks				$188 1 9

AUSTRALIAN MINING COMPANY.—*Tungkillo Mines, April* 7.—With pleasure I inform you that Tungkillo never looked better than at present. In the past month we have raised from 40 to 50 tons of ore, worth 25*l.* per ton, and I expect about the same quantity in the ensuing. As the 40, north of Lean's winze, approaches the ore ground in the 30, it gradually improves in appearance; it contains green carbonate, which is disseminated throughout its entire width (4 feet); you will see by the section, which Mr. Solly promised to forward, its position. Gould's stopes, as you see by the setting list, are worth 180*l.* per fm., and the other places continue good; the hardness of the lode prevents our raising a greater quantity at present; but, at the same time, it must be borne in mind that the harder the lode, the more lasting and durable. We have, as was agreed upon at the board, made arrangements to sink on Anstey's lode, and have commenced a shaft in such a position as to intersect that lode in the 30 fm. level, and shall lose no time in getting the horse whim-engine erected, and the pitwork brought on the mine, so as to push forward this work; I am anxious to see this lode 20 or 30 fms. below the creek, for it will surely prove to be a most valuable one. As all the ores now raising, and at present discovered on Baker's lode, are above the water, we shall require no machine for pumping as yet. At the emery mine we have put a cross-cut (through granite) into the lode, about 5 fms. deep, and find its quality, judging from its appearance, to be improved, as I think it contains at that depth more alumina. The quantity of ores carried to port, 54 tons; now at the surface, not dressed, 10; ready for transit, 20 = 84 tons.

Wheal Rothschild, April 14.—The new shaft in Rothschild is 6 fms. deep, and in it, contrary to expectation, as we commenced it at a distance from the lode, we have got into fine gossan; the ground is favourable for sinking, and, from present appearance, should the soft ground continue, 6*l.* per fm. will be a fair price for it. Kavanagh's winze, on Rothschild's lode, is now 16 fms. deep; the lode is 8 ft. wide, containing some gossan, spar, and asbestos, but there is no copper to be seen in it as yet. In the past month the men have driven on Williams's lode 17 fms., and, by cutting through, find it to be 16 ft. wide, with a western underlay, of about 2 ft per fm., the strata on each side being soft white clay, very similar to that at Kapunda; the lode is one body of soft gossan, but at the present depth (8 fathoms) no copper ore is to be seen, yet it is the finest lode I have seen in the colony. As the rainy season is about to commence, we have dismissed eight men and two boys who were employed in searching, and have retained only those men who are under agreement to the company.

Montacute, March 31.—Having completed the shaft commenced last surveyday on the adit, we have now good air, not only to drive south on the newly-discovered large and promising lode in this part of the mine, but also to continue the level west from the shaft, to cut through and find out the size of the lode; also to prove if there is another lode in this locality, which I think there must be, as there are several at the summit, and we have as yet found no more than one at the foot of the hill; this level will be a good trial for them, as it is from 30 to 40 fms. deeper than the principal workings of the mine. The tribute department is producing no more than 5 tons per month; but, as there are now two pitches in addition, I hope the quantity may increase in the ensuing month. The principal object, and most promising part, is now the large lode in the adit level, which I consider should be worked vigorously, with as many men as can be reasonably employed on it; and as all other parts of the mine offer so little encouragement, I recommend (as the committee suggest) that next survey the number of tutworkmen be reduced from 20 to 12, which is the number under agreement to the company now on tutwork in this mine.

Extract from a Letter from Mr. R. Borrow, the secretary, dated April 6:—"But happily, if we are not again disappointed, the problem of the good or ill success of the company's mines is very fully solved by the rich ore found at Tungkillo, where, after a series of progressive improvements, the committee are now informed, the quantity raising is scarcely anything short of 40 tons a week, of ore presumed to be at least 35 produce, and which, independent of wages, &c., and mine cost, will yield nearly 20*l.* per ton net in England; and if our 40 tons per week be sustained, not only payment of all cost of the company will be soon realised, but a generous dividend may be contemplated; while, at the same time, the other operations of the company will be defrayed by the same means."

Adelaide, April 20.—I also send Captain Phillips's report from Tungkillo, Montacute, and Wheal Rothschild; and, at the same time, I have to inform you that J. B. Montefiore, Esq., has taken up his 500 shares in the company, and paid to the committee 1004*l.* 3s. for the same, which we pass to your credit.

BOLANOS MINES.—The following advices were received on the 21st inst.:—El Bote, *July* 2.—Since my last communication to you, dated 5th June, I beg to inform you, that our progress in sinking in San Genaro shaft has been considerably impeded, owing to the ground having changed its character from that of black slate to greenstone, impregnated with small veins of quartz. The ground becoming much harder and more difficult for sinking, 7½ varas only have been sunk during the month; and there remained, at the close of the month, 4½ varas more to be sunk to reach the bottom of the next cross-cut, of which 1½ vara was sunk during last week. There has been about 70 varas more of ladder road and front stages, for the main rod of the engine, put down during the month—making a total of 170 varas being fixed, and which is as far as we can go for the present, or until the shaft is down for the next cross-cut. In Victoria cross-cut, the communication was made on the 11th June, and I am pleased to say came out perfectly correct; and, as soon as the squaring was finished, we commenced the continuation of the same, north of Guadalupe east, which is in veinstone, principally quartz, in colorados, but without fruits. On the 15th June, we commenced driving the Constancia cross-cut, which is also in veinstone, and has some pintas of azogues; but nothing worth saving. On the 25th June, at night, we commenced the drainage with the four whims in San Fernando shaft—the water being at the time 8 varas above the head of Compania cross-cut, and have continued it to date, uninterrupted; the water is now about three-quarters of a vara below the head of the cross-cut; and I hope, in the course of a day or two, to send the barreteros down to resume their work in driving the cross-cut; the water has also much lessened in the planes. The manteo was removed from San Fernando shaft to San Genaro on the 20th June. In plan No. 2, west, the vein has again become a good deal disordered, and the leys have fallen off. The Poso de Guia also is not quite so good as when last reported, although we are still raising some good ores from this point; yet the vein appears to be somewhat disordered, and the ore less abundant; the stopes, to the east of the Poso, are in good ore. The eastern planes, in the bottom of Guadalupe, have considerably improved—the vein being about 4 varas wide, and in good ore; and I am pleased to say this is at present one of the best labores we have in the mine. The cielo, also, in the back of Guadalupe level, has improved a good deal, and we are raising some very good ore from this point.

In the back of San Antonio no improvement in the vein has taken place, and the ore seems to have given out—consequently, but little has been done at this point during the month. Notwithstanding we have a small increase in the extraction of carga over last month, yet it is not near so much as I anticipated to have had, in consequence of the great scarcity of barreteros, which I believe arises from the great inducements held out by some of the smaller mines in the neighbourhood, worked by buscones, by their offering large partidos to the miners.

Extract from a Letter, dated July 3:—"Enclosed I beg to hand you the usual monthly accounts and statements. Generally speaking, I consider that our workings are looking much better than when I wrote you on the 6th of June; but the want of workmen causes a great drawback, in not being able to raise sufficient carga to cover the heavy expenses which the negociacion has at present to bear. Only 22 pairs of men came this morning to work, and we could employ at least 50 in each quarto. In the four weeks of last month, also, we had five feast days, and last week one. These feast days, with the small number of workmen, throw the extraction back a good deal. The leys continue about the same average as when I last addressed you."

Victoria Cross-Cut.—I am happy to inform you, that the communication was made on the 11th June, and that both in point of level and direction it came out very well.

San Fernando Shaft.—The drainage in this shaft was begun on the night of the 25th with the four whims, and this morning the water is nearly 1 vara below the Compania cross-cut. I hope, in the course of the week, to succeed in draining the whole of the water in the cross-cut, and continue driving through the vein. On the 26th June, we began extracting the ores through San Genaro, and we have so far been able to do all the work with two whims.

Extract from a Letter, dated July 2—*received Aug* 21.—"My last despatches arrived in Mexico a few hours too late for the express for Vera Cruz, in consequence of his leaving a day earlier than usual; but they were immediately forwarded to the coast, with the object of endeavouring to remit them *vid* the United States; and I trust they may have come safely to hand. The departure of the packets from Vera Cruz so early in the month, and the irregularity of the mail in this country, occasions great inconvenience. I have now to send my correspondence by the circuitous route of San Luis Potosi, on account of an insurrection at Guanaxuato, on the direct road."

Celestina.—This mine has yielded a larger quantity of ore than for some months past. The new labor has arrived already about the level of Refugio with good ore. You will perceive that the old Providencia and Refugio levels make a considerable bend eastward, to the south of the point where this branch separates; on which account I am inclined to the opinion that the level was formerly driven on a secondary branch, and that we are now upon the principal vein. In Guadalupe, at 64 varas, on the contrary, it would appear that the principal lode was driven upon, and the branch which was worked upon in Providence and Refugio has been left in the eastern wall. We shall, therefore, hole from the new labor into the Guadalupe level, if the good ore should reach so far. The ore in the bottom, near the north end of Providence, has increased a little in quantity, and continues to give us some encouragement in that quarter. The weekly memorias, for the month, amounted to $1916 4 2, and, with the proportion of general expenses $2587 1 4. The produce of ore has been 306 cargas, which will be worth something beyond $3000.

Loreto.—This mine is not looking so well; the end has become worse, and very little ore has been extracted; still I am of opinion that it merits some further examination before its final abandonment; and, as its underlay has again turned to the north, as in San Nicolas and San Clemente, I think it a favourable indication.

I have not been able to procure bills to make a remittance by this opportunity, as I had intended; but shall again use every exertion to do so, if possible, by next packet.

NATIONAL BRAZILIAN MINES.—*Cuiaba Mine, June* 6.—I have much pleasure in handing you the present monthly report, as it will convey a more interesting month's work than has ever been my lot to hand you from this mine. It is true, I have had the honour of quoting a greater produce, but it was at a period when a much greater number of hands were employed at the stopes, there being at present only 16 hands employed there.

Cuiaba produce, from 26th May to 6th June	*Mrs.*	6	0	1 0
Cocaes produce, from 23d May to 2d June		8	3	6 37
Ten days' total produce	*Mrs.*	14	3	7 37

REAL DEL MONTE MINES.—*Extract from a Letter dated Mineral del Monte, July* 10:—Since I last had this pleasure, on the 12th June, I have done all in my power to enforce economy in every branch of this establishment; and by the accompanying statement, you will see that our expenses have been somewhat diminished; but, on the other hand, I much regret to state, that the value of our produce has been so much less, that I cannot estimate the weekly loss at under $2000. This falling off has been in the Moran Mine, where the extraction of smelting ore has diminished from 60 to 30 cargas, which alone accounts for the difference of $1000 per week. The holidays have also lost us four days' work; and, to add to our misfortunes, the Moran engine has been most unlucky in accidents, breaking successively two fly-wheel shafts, and one crank. In the mines themselves, there has been no very apparent change, either for better or worse. In Moran, the workings going west of engine-shaft have become very poor, while the points on good ore having been worked down to the water

level, are no longer available; from Santa Barbara we now chiefly rely for our extraction, and even here the vein has somewhat deteriorated. The erection of the engine has gone on very slowly, owing to the quantity of ground we have had to cut away for the engine and boiler-house—but building will now commence in another week. In Acosta and Sacramento, you will observe that the extraction has varied very little, but the water has of late so increased in this district, and diminished at Dolores, as nearly to overpower the Acosta engines. I have, therefore, thought it necessary to resume the sinking of the Dolores vertical shaft, with the object of completing it to the Santa Teresa level (4 varas deeper), and the cross-cutting to the Santa Brigada, so as to draw off part of the water from Acosta. At Dolores, the engine has suffered two breakages during the month; first, one of the straps of the main beam, and afterwards a rod in the diagonal; neither, however, caused much delay, as they happened on the eve of a feast day.

We are, as you may be assured, using every exertion in our power to push on the trial at San Pablo. In the Santa Teresa level, we have now passed over ore for the distance of 18 varas, but it will not rise more than a foot above to sole of the level, the driving of which, consequently, produces very little ore; and that, though of a very showy appearance, has never yet assayed above 20 marcs per monton, until last week, when one carga was first parted for smelting; still some of the stones contain much native sulphuret of silver, and the whole appearance of the vein leads us to expect, that the level is just skimming over a bunch of good ore. The water is, however, far too strong to allow of any attempt to prove this interesting portion of ground by sinking, and our object now is to make it drain to the San Pablo winze, where we have pumps to master it. This we hope to effect as soon as we cut the vein in the winze; and the number of strings of quartz, which are lately falling in from the northern side, with the regular underlay of the vein, lead us to expect that it is not far distant. Herewith you will receive the costs and returns for the months of May and June. The former shows a loss of $17,489, in which, however, is included several—such as law expenses, purchase of mules, and my travelling expenses, amounting, in all, to $6244, which properly belong to a former period. In June, by working up stores, there has been a cash profit of $692, though the actual loss to the negociacion was $4491. This will agree very well with what I have led the board to expect; but it must be observed, that the two items of general expenses and charges on produce have been heavier than usual, by interests on loans, and additional costs for conductas, in the present unsafe state of the roads, though this has been again balanced by rather a larger produce of silver than was due to our actual extraction.

ST. JOHN DEL REY MINES.—*Morro Velho, May* 29.—*Mining Works.*—The board will see that we are steadily following out their views of preparing fresh sources of supply; and though two of our explorations have terminated in disappointment, I have good hopes that the third—that is to say, on the extreme western end of the mine—will eventually succeed, though at the present moment we are making very slow progress, owing to the peculiar difficulty in blasting, or otherwise breaking the rock.

Gold extracted to date—10,966 oitavas, from 505·77 cubic feet of sand=21·38 oits. per cubic ft.

Stamps working 28 days—67·65 heads. The supply of stone has been abundant, but containing, as you will see by my diary of the 26th, a most extraordinary quantity of killas. Capt. Treloar says, the proportion of this inferior stone has been larger than in any month since my arrival here; still such has been the spirit with which picking has proceeded on the spalling-floor, that there is every appearance of a very respectable produce for the month.

June 8.—Produce for May—16,899 oitavas=162·347 lbs. troy, from 4004 tons of ore, yielding 4·22 oits. per ton.

Stamps working during the month, average 67·65 heads. This apparent diminution from our full stamping power (71 heads) has not been owing to any unusual stoppage in the principal stamps, but arises almost solely from the inefficiency of power in the old wheel of the amalgamation-house to work the little "experimental" 5-head stamps, at the same time with the amalgamation barrels. Sometimes the whole five heads are stopped, but almost continually two or three heads. These little stamps are, indeed, such poor, old, inefficient things in themselves—not working more than 50 tons of ore in the month—that it will become a question whether they should not be taken down altogether, as soon as our new stamps get fairly to work. The supply of stone continues abundant, enabling us last month to reject the large quantity of 716 tons, and thus to raise the standard of the ore actually stamped to 4·22 oits., in the face of the largest quantity of killas that has ever in any one month inundated the spalling-floor. It had at one time accumulated to such a degree, and the spalling-floor became so choked up with it, that the usual force of overtime men was found quite unable to remove it fast enough, and I was compelled to move in, for four or five days, the force belonging to the new water-course. Without that extraordinary aid, the spallers would not have had room; and, as the killas is again accumulating very fast on the floor, in spite of all our efforts to keep it down, I fear I may be compelled to resort to the same extraordinary assistance this month. The board will observe, that by these exertions we have, for the first time, stamped above 4000 tons of ore, which, together with the large produce of 16,899 oits., will, I trust, be satisfactory to them.

Cost for May, Rs. 33,675 @ 11 at 26½	£3718 6 0
Produce 16,899 oitavas; deduct duties, 7 per cent., 1183 oitavas—net oitavas, 15,716, at 7s. 6d.	5893 10 0
Profit	£2176 4 0

The mines are all working in a satisfactory manner. It has been determined for the present, and until our manual force be further increased, to transfer most of the hands from the Gamba to the East Cachoeira, at which position it is thought the borers will work with more advantage to the company than at the Gamba. Our newly-discovered lode, in the extreme western end of the mine is looking very well: where the men are working, the lode is about 12 feet in thickness, and they have not yet reached the wall. The stone broken looks promising, but Capt. Treloar will not send any of it to the spalling-floor until 500 to 600 tons be broken, so that it may be stamped and amalgamated by itself, in order to ascertain its real value. It is very much feared, that the diminution of that all-important motive-power, water, will be very severely felt on the mine before the end of the dry season, in consequence of the almost total absence of the usual heavy rains in the months of February and March last. Already we are obliged to pay double price for feijao in consequence; and provisions of every description must, it is thought, become extremely dear. The loss, however, from this cause will be small in comparison with what may be dreaded from the falling off in our produce, should our usual supplies of water fail us. The new water-course gets on but slowly, owing to the peculiar hardness and difficulty of the ground they have to work through; and Captain Treloar fears we shall not derive any benefit from it this dry season.

UNITED MEXICAN MINES.—*Guanaxuato, July* 3.—*Mine of Rayas.*—Since my last a considerable change has taken place in the produce of the mine. The point of Dolores, in Santo Toribio, which produced our richest ore, has been worked out, as is frequently the case with bunches of rich ore; it is by no means improbable that it may again recur, but, in the meantime, I judged it prudent to discontinue the hacienda sales after the 10th June. Nevertheless, the mine, in its present state of working, is producing a surplus of $4000 per week, by means of the haciendas. The ore in the ends there are most advanced to the south-east, has fallen off much in quality, giving indications that we are approaching the termination of the vein in that direction. In Santa Cecilia there is no change, but there are still hopes from that point. The rainy season has commenced, but the mine has not yet felt it—the water is still decreasing. I enclose Mr. Parkman's report, dated 30th June. By the annexed statement, you will see a great falling off in the picked ores on the 24th June; this did not arise altogether from the state of the mine—there were two holidays in that week, consequently only four working days.

Four weeks ending—	Picked Ores.	Half Sales with buscones.	Sales at mine on hacienda account.	Outlay.
June 3	Cgs. 750	$563 2 0	$12,353 0 6	$6,359 4 5
„ 10	1284	656 0 4	7,367 7 0	6,713 2 7
„ 17	1234	677 4 4	—	6,295 3 4
„ 24	083	489 3 4	—	4,841 4 6
	Cgs. 3951	$2386 2 4	$19,620 7 0	$24,209 7 6

Quicksilver.—I have purchased, since my last, 40 bottles.

Remittances.—I have instructed our agents in the city of Mexico to forward you a bill of exchange for 4109*l.* 19*s.* 2*d.*, at three days sight.—W. HEATH.

Note.—The bill for 4109*l.* 19*s.* 2*d.*, above alluded to, has been received.—J. MATHER, Secretary: *London, August* 25.

Report on the State of the Workings in the Mines of Rayas.

La Purisima.—These workings continue poor, as will be readily inferred from the sales of buscones.

San Cayetano.—The necessary work for the security of the roof of these workings is in progress. In the Siro General (perpendicular shaft), the water has been lowered 8 varas during the month.

Santa Cecilia.—In this cross-cut, having driven 5·46 varas, and finding no improvement, and, at the same time, considering the distance already driven as a sufficient trial in that direction, the work has been suspended, and the new work, mentioned in last month's report, has been commenced.

Santo Toribio.—These workings have employed 80 barmen—viz.: 60 on ore, and 20 in speculation on different portions of the vein. The changes that have taken place in these workings, during the month, are decidedly unfavourable, inasmuch as they indicate, in the level of San Miguel—our most advanced point to the south-east—that we have reached the limit of the clavo (rich mass) in that direction. Still there is room to hope that, either above or below, the ore may be found to extend further than in the end of San Miguel. The rich ore which we had for a few weeks, in Dolores, has disappeared; but, in the meantime, the workings, both upwards and downwards, on the clavo (rich mass) have improved. This improvement will not compensate for the decline of the ore to the south-east. The average ley of the ore produced is about 14 marcs per monton, with 85 grains of gold per marc. Regarding the prospect of future produce, judging from the actual state of the workings, I think it may be kept up to the present amount.

NATIONAL BRAZILIAN MINING ASSOCIATION.

A special general meeting of shareholders was held at the London Tavern, on Monday last, the 21st inst., to receive the report of the committee appointed at a previous meeting for investigating the position of the company's affairs. Mr. Deputy T. CORNEY in the chair.

The SECRETARY having read the circular and advertisement convening the meeting, the CHAIRMAN observed, that the committee had done him the honour to make him their chairman, though he felt sure they were all far more competent than himself to fulfil the duties; he would, however, do his best. He could assure the meeting that the committee had been most zealous and untiring in investigating their affairs, and in sifting the details of the management to the utmost. In these arduous duties they had been most cordially and advantageously assisted by the directors; and it was but justice to them to state, that every book in the office, as well as the accounts, were kept in the most regular and business-like manner, and to which they had had the most free access on every occasion. The committee had arranged their views and recommendations in the form of a report, which, with their permission, he would read. The chairman then read the following report:—

The first subject which engaged the attention of your committee, was Mr. Collett's proposition for an entire change in the method of working the mines, and in the general management of the affairs of the association; in order to arrive at a just conclusion, whether the interests of the company would be advanced by adopting the proposed plan, or whether the existing system presents a reasonable prospect of a successful termination, without incurring the risk of failure, and certain delay attendant on all new experiments—

Your committee proceeded to read the correspondence between the directors, the commissioners, and mining captains—more particularly that portion relating to the new discovery at Cocaes, in 1846, and examined the plans suggested for reaping the greatest advantage therefrom, consistent with that prudent economy which the funds of the association demanded. Evidence, both documentary and verbal, has been obtained as to the mode by which your mining operations have hitherto been conducted; and the plans, books, and accounts—necessary to the full understanding of your affairs—they have carefully examined. Mr. Collett's propositions also, together with evidence tendered by him, have been deliberately considered.

Your committee, after a laborious and anxious investigation, have come to an unanimous opinion, that the adoption of Mr. Collett's plan is decidedly inexpedient.

The following statement, extracted from the books since 1846, exhibiting progressive improvement in the produce of the mines, as well as a diminution of expenditure, affords, in the opinion of the committee, a reasonable expectation of beneficial results, if the present mode of working be continued.

Net produce of gold realised in England from the Cocaes and Cuiaba Mines, and gross expenditure in the years 1846, 1847, and to 30th June, 1848:—

PRODUCE.

Years.	Cocaes.	Cuiaba.	Total.
1846	£892	£2656	£3548
1847	4732	2038	6770
1848	3204	2234	5438

EXPENDITURE.

Years.	Works of Progress and Construction.	Gen. Exp. in Brazil & London.	Gross Expenditure.
1846	£2900	£5950	£8850
1847	3750	6950	10650
1848	1300	3172	4472

N.B.—In 1848 the produce includes all the gold extracted from the mine to 9th May, and the expenditure, all disbursements to 30th June.

Your committee having directed their attention to the value of the disposable property of the association, independent of the cost of the mines and the works connected therewith, have no hesitation in reporting their opinion, that 60,000*l.* may be considered a moderate estimate on that head.

On investigating the share account, we find the total number of shares issued to be 12,977; of these 10,708 became marked shares, having taken their proportion of scrip in the year 1840; while 2269 are classed as unmarked shares, having only contributed the original subscription of 25*l.* per share; of the marked shares, 10,091 paid the first instalment of the call in 1847—8859 the second—8132 the third—7981 the fourth.

The present state of the shares, therefore, is—

7981	call paid in full.	
151	3*l.* paid—remains to be paid	£151
727	2*l.* paid ditto ditto	1454
1232	1*l.* paid ditto ditto	3696
	Unpaid of the call in 1847	£5301
617	marked shares, on which no part of the call was paid, at 4*l.*	2468
2269	unmarked shares, on which no contribution has been received beyond the original subscription of 25*l.* per share, at 6*l.*	13614
12,977		£21,383

Your committee being desirous to act equitably with every individual shareholder, and also to secure the general interest, submit to the meeting to authorise the directors to allow all shareholders to perfect their shares within a limited time; and in default thereof, to cause all unpaid shares to be forfeited, in such form and manner as they (the directors) may be legally advised.

For the accomplishment of this purpose, your committee recommend that all holders of marked shares be required to pay the call of 4*l.* per share, or such part thereof as now remains unpaid. That the unmarked shares be exchanged for new shares, on payment of 6*l.* per share, by three instalments of £2 each, that sum being equivalent to the money already advanced by the paid-up shareholders; and on this subject the committee beg to remark, that had all the shareholders paid up their calls, the association would have been free from debt at the very moment it is beginning to derive profit from its operations.

Your committee having examined the existing claims on the company, find the amount to be under 16,000*l.*

An account current from 1st January, 1847, to 30th June, 1848, is stated at foot.

The directors—namely, Messrs. Oxenford, Hamilton, Irving, and Reid, appear to have been very zealous in their endeavours to promote the interests of the association; and the number of shares they hold proves how sanguine are their anticipations of a favourable result; these gentlemen, agreeably with the understanding betwixt them and the shareholders, defer making any claim for past services until the period when a dividend shall be payable; and then, no doubt, an equitable settlement will be easily effected.

Mr. Collett, who was elected a director March 8, 1847, has been paid for his services as such director up to October, 1848, 350*l.*, besides an advance made to him in Brazil of 150*l.* Your committee recommend, that, upon Mr. Collett's retirement from the direction, the 150*l.* last mentioned, now standing to his debit, be written off his account.

The directors, it appears, in July, 1847, after having advertised for sale, by tender, 939 shares without success, themselves became the purchasers of those shares, at the price of 4*l.* per share; and their accounts respectively were debited with the amount in diminution of debts due to them by the company for money advanced. The issue of these shares not having been sanctioned by the shareholders, it occurs to your committee, that they (the shareholders) should be consulted as to their disposal; and having suggested that opinion to the directors, they immediately offered to relinquish the shares, upon being paid forthwith the value as placed to their debits, with interest. As it appears that 35 of the before-mentioned shares, part of those allotted to Mr. Collett, were paid for by him, and have passed into other hands, they must be considered as not included in the number to be returned.

Your committee beg to offer the following recommendations, founded upon the result of their investigations:—

That an annual report, showing the working of the mines and state of accounts, up to the 31st December preceding, be laid before a meeting of shareholders in the month of May in each year.

The arrangement of a plan for the future management of your affairs, presented difficulties of no ordinary character; until, in communication with Mr. Reid and Mr. Irving, two of your present board, those gentlemen proposed to retire from the direction, with a view to its re-construction, upon the understanding that their liabilities on account of the association be discharged out of the first fund available for that purpose, arising from the payment of calls or otherwise, as may be determined.

Your committee having full confidence in the integrity, ability, and zeal of Mr. Edward Oxenford and Mr. William Hamilton, recommend that they be appointed sole directors and trustees; and that all the property in Brazil be vested in them jointly, on behalf of the association, until the shareholders deem proper to make any alteration. And your committee, feeling it desirable to ascertain at what expense your London management can be conducted in future, have gone into a calculation with those gentlemen, and recommend that 900*l.* per annum be set apart to meet all charges of direction, clerks, rent, porter, stationery, foreign postage, and 21*l.* per annum for two auditors.

Your committee further recommended, that the 939 shares, referred to as having been offered to be abandoned by the directors, be perfected by vote of this meeting. Of these, 200 shares not having been paid for, it will be necessary to dispose of them forthwith, as the proceeds have been calculated upon as assets to meet acceptances; and, therefore, your committee suggest their being offered to the proprietors at the present meeting.

Throughout the investigation, the committee have had every facility and information which the directors could furnish; and they have much pleasure in recording their feelings of satisfaction at the mode in which the accounts and correspondence have been conducted—being alike creditable to the directors, and beneficial to the shareholders.

Account current from 1st January, 1847, to 30th June, 1848.

Dr.	1847. One Year.	1848. Half-Year.	Total.
Bills drawn from Brazil, current expenses, and liquidation of outstanding debts of 1846	£12,241 13 7	£3569 19 6	£15,811 13 1
Bills drawn from Falmouth, for miners' wages, payable there, & for mining stores sent to Brazil	405 2 3	165 14 5	570 16 8
New shares, advertising, printing, examining books, house, rent, taxes, salaries, postages, &c.	1,440 4 1	680 5 8	2,120 9 9
Freight and insurances of gold	136 14 0	56 17 1	193 11 1
Sundry liabilities paid off, and interest on loans	—	—	28,529 17 4
200 shares, part of 939, at 4*l.* per share, with interest	—	—	819 13 0
Balance at bankers, June 30, 1848	—	—	106 1 3
Total			£48,152 2 2

Cr.	
Balance of cash from last account	£ 25 13 0
Sundry advances	2,297 15 9
Instalments on calls	31,307 0 0
939 shares, sold by public tender, at 4*l.* per share	3,756 0 0
Remittances of gold	10,741 16 3
Return premium on insurances and bond stamps	23 17 2
Total	£48,152 2 2

Signed by—T. CORNEY (chairman), M. GREENAWAY, F. HEATH, R. M. EDSWORTH, D. DAVIES, J. HARTLEY.

Mr. OXENFORD then rose, and said—In the peculiar and unexpected situation in which we have been placed, I avail myself of the earliest opportunity of expressing my hearty concurrence in the appointment of this committee; and I rejoice that it is composed of gentlemen, whose high character and standing must give weight to any report emanating from them. I consider that the gratitude of every shareholder is due to this committee for the patience and perseverance, the industry and ability, they have brought to bear on this investigation. The report which we have heard read, gentlemen, absolves me from the necessity of entering into many details, with which I might, otherwise, have troubled you; but there are still one or two points, regarding which I respectfully claim your indulgence. You have been given to understand, gentlemen, that our mining affairs in Brazil have been carried on upon some old and obsolete plan of my own; and that I have been so obstinate in opinion—so dark in judgment to your interests and my own—that I have still gone on in ignorance and error, even to the point of rejecting the brilliant scheme, which, after so patient, so tedious, so laborious, so *scientific* an investigation, has been laid before you. Now, the truth is, gentlemen, that I have had no darling plan of my own to uphold; for though I have known Brazilian mining for upwards of 30 years—though, for upwards of seven years, I have personally superintended mining affairs in Brazil, and with all the care and attention derived from a great pecuniary interest—I have never had the *presumption* to suppose that I could beneficially control the operations of the practical miner. Mining knowledge, gentlemen, is not to be gained in a day, nor a week, nor a month, nor a year; neither is it to be acquired on the surface. In the dark bowels of the earth, with an end of candle for his sun, and a piece of clay for his candlestick, the miner toils on his solitary task. With all the powers of his body—with all the faculties of his soul concentrated on his work—he watches, with an almost inconceivable anxiety, the variations of the strata he is passing through; he strikes down a stone, distinguished by some peculiarity from the surrounding mass—he marks the spot—he lays it by for future examination and discussion with the superintending captain. It is by such means as these minute, careful, experimental inquiry and investigation, that mining knowledge is to be attained; and while I hold the merely theoretical miner to be a dangerous absurdity, in what words shall I describe—nay, in what terms shall I deplore the more dangerous infatuation of a gentleman, who, though possessing a thousand estimable qualities, still being, as to mining, without theory and without practice, without science and without experience, could persuade himself (aye, and even infect others with the delusion) that he could beneficially control, alter, and modify mining operations, of whose meaning and importance he must, upon reflection, be fully aware that he is entirely ignorant? How far I have ventured to interfere in our mining affairs, I will proceed to explain. Being intimately acquainted with the boundaries of our estates—knowing our rights of wood, and our rights of water, and the past history of our mines—I have thrown out suggestions whenever I have considered that information on these points would bear beneficially on the works in progress; and if I am told that it is 15 years since I have been in Brazil, I answer, that the mountains stand in the same places, and the waters flow in the same streams, and the strata run in the same directions; and what *was* the past history of our mines *then*, is the past history of our mines *now*; and I appeal to the common sense of every gentleman here present, whether information, such as I have described, must not be of almost invaluable importance to the English miner in a foreign country? Gentlemen, be not deceived; our interests are identical; as far as this association goes, they are quite inseparable. In conjunction with my friend—my valued and honoured friend, Mr. Hamilton—I have watched over our affairs for many years—often in distress—often under disappointment—*always*, since the death of Mr. Irving, under calumny and suspicion—still, though with care of heart and anxiety of mind, we have struggled through evil report and good report. And why have we done so?—Because we have believed, and do believe, that our mines contain within themselves the elements of great success. Impressed with this conviction, it has always been with us a matter of paramount importance to place at the head of our mining affairs men of character and probity—men of great practical mining knowledge—men not only trained up in the best mines in Cornwall, but also versed in the auriferous strata of Brazil; and, in giving the appointments to these men, we have always made them to know and to feel that *our* interest was their interest—*our* success, their success—and that any important gold discovery would be immediately followed by a pecuniary reward, in some measure, commensurate with its magnitude. The only restrictions we have imposed—the only orders by which these men have been fettered—may be comprised in the following catalogue:—Restriction the first, get all the gold you can; restriction the second, get it as cheaply as you can; restriction the third, send it home as fast as you can. Gentlemen, Mr. Hamilton's conduct and my own is now fairly before you. We are willing to continue the management of our affairs, if cheered by your approbation and supported by your confidence; and, if these are withdrawn, we are as willing to commit our charge to other—probably more able and more efficient—hands; but to none more zealously and more faithfully devoted to your interests.

Mr. COLLETT rose and said that he had some questions to ask the committee, which would take some considerable time. He then commenced, by inquiring if they had inspected the minute-book; the answer was in the affirmative. He was proceeding with similar questions, when the chairman appealed to the meeting, whether the time was to be taken up by such irrelevant questions; and at length Mr. Collett proceeded to justify himself, and asserted, that his visit to the mines, and his exertions alone, had placed the association in its present improving position. He had, at the previous meeting, felt himself in some difficulty from not having the report from the mines; but letters had been since received, during his absence in Ireland, stating that his recommendations had been generally adopted, and advising the directors to continue them. Several members of the committee here denied that such was the general inference to be drawn from the correspondence. Mr. Collett wished to read part of a letter, to show that it was so, when Mr. KEMBLE objected to this mode of proceeding. It was useless to read a portion of a letter without the whole, and if one was read the whole detail, which the committee had investigated, must be gone through *de novo*. The question, "should the letter be read," was put to the vote and negatived.

Mr. HAMILTON said, the committee had most carefully read and compared the whole correspondence, and the evident conviction was, that Mr. Collett's plan could not be adopted.

The CHAIRMAN said, not only had they carefully read every letter and paper, and examined all the books and accounts, but they had sought the verbal evidence of practical men, as to the most advantageous system, among whom was Dr. Cliff; they, one and all, at once declared the proposed plan impracticable.

A very long discussion ensued, in which the chairman, the members of the committee—Messrs. Oxenford, Hamilton, Collett, Reid, Irving, Kemble—and other gentlemen took part, during which a reconciliation among the directors was strongly urged; but Mr. HAMILTON assured the meeting they could not act in concert; there was not the slightest personal feeling, but he had long and deeply considered the subject, had made his resolve, and should abide by it; it could not be altered; but he put it to the meeting, whether, with the deep responsibility under which himself and colleague lay, it was fair to attempt to control and balk them in carrying out any measures they might consider for the benefit of the association. They heartily wished two or three gentlemen would join with them in the management, but it could only be on the condition of entering into a fair and joint responsibility. (Here several gentlemen were personally called upon, but all declined the honour.) His friend (Mr. Oxenford) had devoted his whole soul to their affairs; it had injured his health, and the position of the association was a subject of the most intense anxiety to them both. They should be happy to be relieved of their arduous duties, if the shareholders would reimburse them their advances, and relieve them from their liabilities.

Mr. COLLETT complained, that it was through his exertions in visiting the property, and calling the last meeting, that the committee had been appointed, he being one; and yet they now turned round, and recommended his being turned out of the direction with contempt. He still affirmed, that the successful position of the company was due to him—that the captains were all for his plan, but they had been intimidated, and threatened to be discharged, if they followed it. He said he was a good geologist, was well acquainted with, and had visited, mines of gold, silver, copper, lead, &c., in all parts of the world, and had just discovered the best mine in Ireland, which he meant to keep, &c. We cannot follow Mr. Collett, or the other speakers, throughout a sitting of 3½ hours, but must proceed to give the results.

The CHAIRMAN, not being able to elicit the feeling of the meeting,

whether the report should be put for adoption entire, or the clauses taken *seriatim*, moved that it be merely "received," which was carried unanimously. He then moved, on one clause—"That an annual report, showing the working of the mines and statement of accounts, up to the 31st of December preceding, be laid before a meeting of shareholder in the month of May in each year." Seconded and carried unanimously. He then moved from another clause in the report—"That Mr. Edward Oxenford and Mr. William Hamilton, be appointed sole directors, and all the property in Brazil be vested in them jointly, on behalf of the association, until the shareholders deem it proper to make any alteration; and that 900*l.* per annum be set apart to meet all London charges of management." To this Mr. Collett moved an amendment—"That the affairs of the association continue to be conducted by the present direction, they having done nothing to forfeit the confidence of the shareholders."

On this a very warm and long discussion ensued; it was particularly shown, that part of Mr. Collett's plan was, that there should be no London management; he wanted the management in the Brazils, to sell the gold at Rio Janeiro, and remit bills to London for payment of dividends. At length the amendment was put, and lost by 15 to 14; the original motion was then put, and lost by 18 to 16. In this state of feeling of the shareholders, which left matters, of course, precisely as they were before the meeting, Mr. KEMBLE moved an adjournment to Monday next, the 28th inst., at 12 for 1 o'clock, which was carried unanimously; and a vote of thanks having passed to the chair, the meeting separated.

QUEBEC MINING COMPANY.

The annual general meeting of shareholders took place at the offices of the company, Peter-street, Quebec, on the 10th July last.

PETER PATTERSON, Esq. (president) in the chair.

The SECRETARY read the statement of accounts, from which it appeared the receipts were—Bonus by original Quebec holders, 3000*l.* 1s. 11d.; four instalments of 1s. 3d. each, on 42,746 shares, 10,686*l.* 10s. = 13,686*l.* 11s. 11d.—Expended on Government locations, 2100*l.*; exploring, purchase of sloop, tools, salaries, and wages, 8599*l.* 2s. 6d.; expenses in Quebec, Act of Incorporation, outfits, agency, travelling, office rent, furniture, &c., 2977*l.* 11s. 7d.; good debts due the company, 1411*l.* 11s. 3d.; cash in hand, 1159*l.* 13s. 9d., from which two last sums deduct debts owing by the company, 2561*l.* 7s. 2d.—leaves balance in favour of the adventurers, 9*l.* 17s. 10d.—The report stated, that upwards of 1000*l.* of the above expenditure arose from mining operations of the winter of 1846-7, under the former superintendent, whose total incapacity caused a loss to the company to that amount. That the progress in the mines since 27th September last had been considerable, and most satisfactory. The adit level, at Patterson's shaft, proved the lode to be of the extraordinary width of 35 ft., but the ore poor. In the 10 fm. level the ore was daily improving, as the driving advanced northward, and the quantity of ore in sight the superintendent estimated at 60,000*l.*; by further driving 100 ft. the level would come out at the side of the hill, whence all the ore could be extracted, and the mine drained without machinery. Time and money, however, were requisite to extract and smelt the ore into blocks of black metal, fit for market, and the erection of a smelting furnace, would require a call of 5*s.* per share. The directors had obtained all the necessary information for the erection of a furnace to reduce the ore into black metal, similar to the copper from Chili; the flux they hoped to obtain on the spot, or in the vicinity; of fuel there was abundance, and the directors intended to erect a furnace as soon as the funds would allow.

EAST POOL MINING COMPANY.

At a meeting of adventurers, held at the mine, on Tuesday, the 15th inst., the accounts were examined and passed, showing—Cash received for ores sold, 614*l.* 12s. 10.; two months' water charge, 120*l.*; received from tributers, 4*l.* 15s. 9d.; calls, 640*l.* = 1379*l.* 8s. 7d.—Labour cost for June and July, 1177*l.* 4s. 1d.; balance of last account, 83*l.* 18s. 4d. = 1261*l.* 2s. 5d.—leaving balance in favour of adventurers, 118*l.* 6s. 2d.—It was resolved, that the relative salaries of the underground agents be taken into consideration at the next account, with a view of improving Capt. Thomas's wages, as head captain.—That the committee be urgently desired to adopt means to get a settlement of Mr. Robinson's account.—That Captain Thomas be authorised to treat for a stamps, with a view of the adventurers returning their own tin, as formerly.

EAST WHEAL GOLDEN MINE.

A meeting of the adventurers in this mine was held at Hayle, on the 21st inst., when the accounts were presented, showing—Labour cost, &c., since the former meeting, 57*l.* 14s. 3d.; less amount then in hand, 15*l.* 18s. 3d.—leaving a balance against the mine of 41*l.* 16s. It was resolved—"That the same should be divided and collected immediately, and that a further call of 1*l.* per share be made, for the further prosecution of the mine."

KIRKCUDBRIGHTSHIRE MINING COMPANY.

At the usual monthly meeting of adventurers, held at the offices, Birchin-lane, on the 17th inst., the half-yearly statement of accounts was examined, and passed, showing—Balance against the mine last account, 550*l.* 16s. 5d.; cost for February, 543*l.* 15s. 1d.; March, 431*l.* 12s. 2d.; April, 563*l.* 6s. 1d.; May, 447*l.* 2s. 2d.; June, 328*l.* 18s. 9d.; July, 443*l.* 12s. 11d. = 3309*l.* 3s. 7d.—By call, 620*l.* 5s.; sales of lead ore, 18th March, 63 tons, 481*l.* 6s. 9d.; 6th April, 42 tons 4 cwts., 335*l.* 8s. 1d.; 27th April, 66 tons 1 cwt., 505*l.* 14s. 2d.; 17th May, 39 tons, 313*l.* 19s.; 8th June, 38 tons, 18 cwts., 327*l.* 14s. 7d.; and 13th July, 30 tons 4 cwts., 257*l.* 9s. 1d. = 2841*l.* 16s. 8d.—leaving balance against the adventurers, of 467*l.* 6s. 11d.—The liabilities against the mine amounted to 512*l.* 11s. 11d., but there are assets to be received, 45*l.* 5s., which reduces it to the above amount.—The following report from Capt. R. Williams was read to the meeting:—

Cairnsmore Mine, August 15.—In presenting you a general report of the operations and prospects of this mine, I will first state the ground driven from the 19th February last to the end of July in each level, and then say a few words on each as I go on. The 50 fm. level has been driven west of Stewart's shaft 17 fms., through a large kindly lode; we have driven a cross-cut 4 fms. to the north lode; raised in the back to hole to the winze 3 fms., and drove west on the north lode 4 fms., making the ground spent in the 50 fm. level 28 fms. Although the main lode has been sprinkled with lead most of the way in driving, yet the lode in the end has not been worth saving until last week, when a good branch of lead seems forming in the middle of the end, in a large kindly lode. There is a good bunch of ore for 2 or 3 fms. long on the north lode, which has the appearance of forming an independent vein in depth. There is a pitch working on the main lode in the back of this level at 3*l.* 15s. per ton, and two pitches working on the north lode, one at 2*l.* 10*l.*, and the other at 4*l.* 10s. per ton. The 40 fm. level has been driven 23 fms. west to Keith's shaft, through a fine productive lode all the way; and this level is now extended 12 fms. west of this shaft, 5 or 6 fms. of which has been driven through a fine course of lead, and the lode at present is large and kindly in the end; there are four pitches working in the back of this level to the east of Keith's shaft, from 2*l.* 10s. to 4*l.* 10s. per ton. There is also a good lode gone down most of the way in the bottom of this level, which is encouraging to sink Keith's shaft, and to bring on the 50 fm. level from Stewart's under it; the caunter has been driven on at the 40 fm. level, 15 fms. 3 ft., about 10 fms. of which has proved productive ground—the lode then becomes small and poor; the pitch in the back of this level has produced a good deal of ore, and the bottom is still whole; a winze sunk near the junction in the bottom of the 40, will prove this and the main lode to the 50 fm. level. Keith's shaft has been sunk through a fine lode from the 30 to the 40 fm. level; it is now sunk 9 ft. below the 40, and the men are cutting a plat, preparatory to sinking this shaft to the 50. The 30 fm. level has been driven west of Keith's shaft 25 fms., and most of the way through a kindly and productive lode, which is large and kindly in the present end, having just past through a good bunch of ore; we have a winze sinking in the bottom of this level 20 fms. west of Keith's shaft, there is a good stone of lead in the winze; this will also lay open a rich piece of the lode for that length, and ventilate the 30 and 40 ends; there is one pitch working in the back of this level west of Keith's, at 3*l.* per ton; and one in the bottom of this level east of the shaft, at 2*l.* 5s. per ton. The 30 fm. level east of Stewart's shaft, which was resumed driving in March, has been driven through some fathoms of dead ground, but out of the 20 fms. 3 ft. which has been spent, the last 6 fms. has been through a good bunch of ore, and the ground has decidedly changed into the bearing rock again; this end is now 53 fms east of Stewart's, and about 21 fms. west of Crouch's shaft, which has been sunk 13 or 14 fms. from the surface, and has reached the bearing rock in its descent, before it was suspended on account of the water; from this circumstance I anticipate a long productive piece of bearing ground in this direction, which will greatly add to the resources of the mine. The lode west of Keith's, also, which some two months ago got into a piece of disordered ground, has resumed its former appearance, and is a strong healthy lode again, and so is likely to continue; thus, in driving east and west, we find the ground favourable for the production of lead; and, if laid open in a proper manner, is likely to prove a profitable investment to the shareholders. When we get the new wheel set to work, which is nearly opposite Crouch's shaft, we shall then be able to draw the water, and sink this shaft at once to the 30 end. From the nearness of our present shafts to each other, our mine is not well ventilated; but, when Crouch's shaft shall be holed, as it stands on much higher ground, it will cause a stronger current of air to pass through the mine, and thus ventilate it more effectually. We shall then have, from Crouch's to Keith's, a length of ground opened on the course of the vein nearly 140 fms. long, with power to extend 50 fms. more each way; by thus laying open the ground we shall be able to raise, we may fairly presume, a sufficient quantity of lead monthly, both to pay our cost, and give a fair profit to the company.

PLYMOUTH WHEAL YEOLAND MINING COMPANY.

A general meeting of shareholders was held on Monday last, the 23d. inst., at the offices of Messrs. Croker, Clement, and Co., Plymouth.—H. LUSCOMBE, Esq., in the chair.—An abstract of the accounts was read, from which it appeared that the June costs were 176*l.* 4s. 5d.; July costs, 146*l.* 15s. 11d.; bills, 267*l.* 8s. 9d.=590*l.* 9s. 1d.—Ores sold for June amount to 70*l.* 5s. 4d., and for July 62*l.* 9s. 11d. The report of the committee stated that the lords had consented to a reduction of their dues from 1-12th to 1-15th for the next seven years, for which a vote of thanks was passed.

The following report from Capt. R. Edwards was read to the meeting:—

August 22.—The engine-shaft is now down about 6 fms. 4 ft. below the 20 fm. level. We have had a hard bar of ground to pass through, within the last fortnight, but it is now changed for the better, and I hope to complete it to the 32 fm. by the end of September. The ground is also become more congenial for metal, having passed from a rusty grey to a light blue jointy killas, with strings of mundic passing through it. The 20 fm. level, east of this shaft, on the old south lode, has been driven, within the last fortnight, about 7 feet, and has intersected the cross-course, but the lode has not yet been opened on the eastern side of it. I should advise the driving of this level 2 or 3 fms. on the lode, east of the cross-course, and if there be no improvement, then to suspend it. The south adit has been driven, since the last report, about 4 fms., and has cut the point of the new south lode. The character of the stone here is much like that of the same lode when worked on further east, although it contains mundic without tin, but it has not yet taken its regular direction. In speaking of the new south lode, in my last report, I said it had been uncovered below the slide about 9 fms. long, but that it had not been worked into more than 5 fms. long. Since that time it has been worked into, at the extreme eastern end of the piece uncovered, where it is found to be richer and wider than where opened into before. It is now about 6 ft. wide (without either wall being seen), and worth 30*l.* per fm. I think I may now say with certainty, that we shall pay August costs, and if the lode holds as good as it now is (of which, of course, there is no certainty), we shall do better in September. The new rods and pumps, ordered by the last meeting, for pumping the water from the lode, have been fixed, and are working very well, and so also are the engine and other machinery.

The report was received, and a committee having general powers and control was appointed for the next six months, consisting of Messrs. Codd, J. E. Square, Wills, G. Trickett, jun., and H. Luscombe.

PENZANCE CONSOLS MINING COMPANY.

A general meeting of adventurers was held at the Wellington Inn, St. Just, on Monday, the 21st inst., when the accounts were examined and passed, showing—Balance in hand last account, 92*l.* 15s. 3d.; tin sold, 248*l.* 18s. 6d. = 341*l.* 13s. 9d.—Mine cost to end of June, 463*l.* 15s. 6d.; merchants' bills to end of July, 281*l.* 7s. 5d.—leaving balance against the adventurers of 403*l.* 9s. 2d.

A call of 8s. 9d. per share was made on the adventurers, and the appearances of the mine, on the whole, are said never to have looked better; and, from the ground already explored, no doubt is entertained but that this adventure will open into a profitable and a lasting concern.

SOUTH WHEAL TOLGUS MINING COMPANY.

At a two-monthly meeting of adventurers, held at the mine, on the 10th inst., the accounts were examined, and passed, showing—Balance from last account, 516*l.* 4s.; labour cost and merchants' bills for May and June, 412*l.* 1s. 9d. = 928*l.* 6s. 6d.—By call, 640*l.*; copper ores sold (less lord's dues), 115*l.* 7s. 3d.—leaving balance against the adventurers, 172*l.* 19s. 3d.—A call of 1*l.* 10s. per share was then made, payable to the purser immediately.—The following report from Capt. W. Francis was read to the meeting:—

South Wheal Tolgus, August 10.—The engine-shaft has been sunk to the 22 fm. level, where a cross-cut is driven 4 fms. south, and it may be expected to reach the lode by the end of this month. In the 12 fm. level no discovery has been made during the past two months; west from the shaft the level has been driven on the south part of the lode, which is small and poor; but, by sinking a winze from the adit, we find that the lode in it is about 3 fms. further north than the 12, and we are now driving a cross-cut in that level, which will intersect it in a fortnight; this winze was referred to in the last report, since when it has been sunk to between 7 and 8 fms. below the adit, through good ore ground, and there is now a course of ore in the bottom of it, which will yield about 3 tons per fm.—but the water prevents us from sinking it at present; east of the shaft, in the 12, the lode is large, with spots of ore; but this level has to be driven several fathoms more to get under the ores which the adit is passing through. The adit level east, for the last two months, has continued to be driven through a large orey lode, yielding, in some places, 2 tons of ore per fathom; at this time, the lode is 4 ft. wide, and has a very favourable appearance. I have much satisfaction in remarking, that a decided improvement in our prospects has taken place since June last. We have now good grounds for expecting to find the north part of the lode, west in the 12 fm. level, productive, and that the ores will hold in depth in that direction. The discovery in the adit level, although not yet aiding our returns much, may be considered an important one. It is made at what may be termed the commencement of that part of the ground upon which we have always relied with the greatest confidence for success; the end of the level is now about 100 fms. from the great cross-course; it was parallel to this piece of ground, and about 300 fms. north from it, where the Old Tolgus Mine yielded all its profits; and we are further encouraged to believe that this part of the mine will produce considerable quantities of ores, by finding the lode in it increasing in size, with some good gossan in it. Our returns for the next account will pretty much exceed those of the last two months, while the costs will be about the same amount.

WHEAL CURTIS MINING COMPANY.

An extraordinary meeting of shareholders was convened at their offices, Basinghall-street, on Tuesday last, for the purpose of considering the propriety of dissolving the company and discharging its liabilities. An hour beyond the time fixed for commencing the proceedings (12 o'clock) elapsed ere more than 16 regularly qualified shareholders had assembled; and, as no less than 20 are required to form a quorum, no legal meeting could, therefore, be held. However, those of the shareholders who were present came to a resolution before they separated, to the effect that "They recommend the directors forthwith to sell the leases, the plant, and the property of the company, and to discharge all the liabilities thereof." It was also suggested by the shareholders, that the directors should take measures to enforce payment from all defaulters.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

WHEAL LOUISA.—This mine is sunk about 30 fathoms from surface, and opened east and west on a large lode, 10 ft. wide—about 10 fms. containing some good stones of copper ore; in driving the ends of the 30 fm. level east and west, on the course of the lodes under the hills, there will be upwards of 60 fms. of backs from surface; this should be done before sinking the shaft one inch deeper. The lodes going under the hills are very much improved in driving east; here it has a very kindly appearance for making a good course of copper under the trap-rock; and, as there is sufficient machinery on the mine, another outlay of 1*l.* per share would be desirable to develope it; the ground is very favourable for driving, and 20 fms. per month might be driven, at a cost of 60*l.*; the indications are very favourable.

MINING IN FLINTSHIRE.

[FROM A CORRESPONDENT.]

MOLD.—Mining is at a low ebb in this part, from the price of lead ore being so reduced, and the rate of royalties exacted by the lords being so high, which naturally makes against the miner. It is a matter of surprise that the lords should so injure their own interests, by demanding a royalty of one-eighth, or one-tenth, which they must be well aware cannot be afforded; and thus the mines are imperfectly worked.

CAE-TAN-Y-GRAIG.—This sett has just been put to work. The workings are shallow; but from which, we understand, several hundreds of tons of ore have been raised by the "old men," with the aid of hand-pumps, and at a period before powder was brought into use. Shares, we believe, are to be had at cost price—viz.: 8*l.* per 1-128th, with a call of 1*l.* per share now due.

WESTMINSTER MINE.—The loss here is about 200*l.* per month, which is much to be regretted, as the adventurers are really deserving of a good return on the capital they have invested, as well as the spirit they have evinced. Upwards of 50,000*l.* has been expended on the mine, and it is, at the present moment, prosecuted with vigour.

BELGRAVE MINE.—This is barely paying cost; the concern is in the hands of two parties only. I should say that 1500*l.*, or 2000*l.*, outlaid in a proper manner, would lead to profitable results.

MAES-Y-SAFN.—This is a good old lasting work, and the prospects, in the eastern workings, have much improved during the past three months, the quantity of ore raised having increased 50 per cent., or from 80 to 120 tons per month.

JAMAICA MINE.—To the east of Maes-y-Safn, cross-cuts were driven, in the first instance, so as to intersect the Maes-y-Safn lode, in the course of which a lode was discovered, as a caunter, underlying south, from which 1350 tons have been raised during the past two years (1000 tons from June 1, 1847, to June 1, 1848). In the roof of the 35 fm. level, about 25 fms. east of Francis's shaft, they are now raising ore, with four men, at 10*s.* per ton; and about 25 fms. nearer the forebreast they have gone through ore ground for 3 fms. in length, which will set at 20*s.* per ton. In the 35 fm. level west, driving west from the rise 8 fms. over this level, they have gone through 10 fms. of ore ground, and the last 5 or 6 fms. will set at 10*s.* per ton. The runs of ore do not appear to hold down to the bottom level (43 fm.), although there has been ore occasionally in three or four places. In going west the lode turns with the hill, and appears, so far as an opinion can be formed, to be coming back, or taking the bearing of the regular veins of the country. Taylor's shaft is situated about midway between Maes-y-Safn and the principal workings on ore ground. A cross-cut in the 30 has been driven so as to intersect the Maes-y-Safn lode, which is in compact limestone.

CAED HENDRE.—This mine has yielded good produce; but is not more than paying cost at present.

FRON-FOWNOG.—This is a rich "flat," or bunch of ore, and has been making good profits; the returns, however, have fallen off from 300 to 130 tons a month.

"WANTED—A SECRETARY."—At the Mansion House, on Monday, the Lord Mayor said, he had some days ago received a letter from a gentleman, to the contents of which he thought it would be useful to call the attention of the public. It related to an advertisement, stating that a gentleman of business-habits might be inducted to an appointment in the capacity of "secretary to an established mining company—stipend 200*l.* per annum." The letter went on: "Now, your lordship will observe, that the office to which reference is made is in the neighbourhood of the Mansion-house, and therefore well calculated to ensure respectability. Well, a young friend of mine, every way qualified to fill such an appointment with credit to himself and advantage to the board of directors, called on me and requested me to accompany him to make the inquiry. After waiting a considerable time, until four or five respectable men were honoured with an interview, we were informed in the first place money would be wanted, and the applicant must pay down three years salary (600*l.*) Now, in the first place, what mining company is this? Secondly, how could this Mr. —— secure such an appointment? Thirdly, if he could secure it, what guarantee could he furnish that it would last three years; and if he could not do this, is it not a gross attempt at fraud? I told him, that as to his three years' salary, I would not, on the part of my friend, give him 3*s.*, when he replied, 'there were plenty who would give him what he asked,' and I indignantly went away." The Lord Mayor said, the questions asked by his correspondent were such as would naturally suggest themselves from the interview described, and agreed with him that the whole business appeared to be such as would give rise to such suspicions as were entertained and expressed by him.

ACCIDENTS FROM THE BREAKING OF CHAINS.

SIR,—Observing the frequency of accidents by chains breaking, I beg to suggest, that if you were to direct the attention of juries (in cases of fatal accidents) to the *price* paid for the chains, you would do great service, and prevent the loss of many lives. Let the juries call for the invoice of the chain, by which means they will learn the time it has been in wear, the price, and the maker's name. I know several parties who buy the cheapest chains for their pits that they can meet with—trusting men's lives to the veriest rubbish of common iron, and the most inferior workmanship, possible. G. W.

London, August 22.

MINING IN THE SOUTH OF SCOTLAND.

SIR,—It has been matter of remark by most mining engineers who have visited this part of the United Kingdom of late years, that the landlords and gentry are very far behind their neighbours, both in the north and south of England, in mining enterprise; whether this has been their fault, from want of disposition to come to market terms, or in their enterprising neighbours to penetrate the crust of the earth for hidden treasures, is not for me to say. One thing we are convinced of, that the geological features of the country indicate extensive formations of mineral wealth; and, notwithstanding the remote period at which much good had been done in raising lead, both in Lanarkshire and Kirkcudbright, it appears this branch of industry has been very much neglected of late years. Dr. Brewster, under date 1818, in the *Edinburgh Encyclopædia*, writes as follows:—"The most valuable metallic ores are situated in the southern part of the country, where lead has been wrought for more than two centuries; the principal mines are at Lead Hills in Lanarkshire, belonging to the Earl of Hopeton, let by him to the Scotch Mining Company; the most celebrated mine here is called the Susannah Mine, yielding ore of rich quality. The veins of lead vary in width, from a few inches to 15 ft., and yields from 6 ozs. to 12 ozs. of silver the ton of lead: 18,000 bars of lead, 9 stone each, are smelted yearly; of these the Earl of Hopeton receives 1-6th, as lordship, or rent; there are 350 men employed in these mines, who work only 6 hours in 24. In the reign of James V., 300 men are said to have been employed searching for gold several summers, and to have collected gold to the amount of 150,000*l.* sterling. In Kirkcudbright, lead mines were also wrought extensively in the parish of Minnigaff (Black Craig Mines), from 1765 to 1790, and the quantity produced during that period was considerable; at an early stage of the work a tunnel was cut nearly a mile into the bowels of the earth, and the ore was brought in boats from the vein to the furnace, for smelting at the mouth of the tunnel. Since 1795, the quantity of ore extracted has been gradually diminishing, and the mine is now entirely abandoned." From other sources, I gather that, during the period of operation spoken of by Dr. Brewster, the returns from these mines amounted to from 48,000*l.* to 50,000*l.* yearly and paid 1-8th dish, or lordship; but, as the mines proceeded in depth, additional machinery was required, and the proprietors, entertaining so high an opinion of their mineral resources, refused to reset the mines upon working terms. Some years after 1818, other mining companies made temporary trials, but for want of sufficient liberality on part of the proprietors to enter into a lease, the mines were again abandoned. Such, indeed, has been the high opinion of the landlords generally of their mineral wealth, that no working company could do business with them, until a little more than two years since, the Kirkcudbrightshire Mining Company, with a view to explore a piece of maiden ground in the lands of Cairnsmore, on direction of the Black Craig lode, belonging to James Stewart, Esq., obtained a lease at 1-14th lordship, or rent, and were soon successful in finding the vein; the mine is sunk 50 fms. below the surface; a second shaft is in course of sinking, and levels are communicated, so that the mine is well ventilated, and a wide range of tribute ground laid open; from 50 to 60 tons of lead per month have been raised in the present year, and since the commencement upwards of 600 tons have been sent to market; a further depth and extent of operations is required, to ensure a permanent and profitable concern to the shareholders. The water and stuff from beneath are discharged by means of a water-wheel; the ores at surface are also crushed by a second water-wheel, and a third one is in course of erection for further extension of the works. The mine and machinery altogether is very compact, and neatly laid out. About two miles south-east from Cairnsmore, on the direction of the vein, there is a range or channel of granite, nearly a mile in width, about right angles with the lode; and from two to three miles east of this are situated the Ruscoe lead mines, in which an adit level has been driven about 100 fms. westward on the lode; at a shallow depth some lead has been returned, but greater depth is required before much can be said of the lode. This mine, Cally Copper Mine, and the celebrated Black Craig Mines, are taken by a very respectable mining company, and operations commenced with a view to be extended upon a wide scale. Contiguous to Black Craig and Cairnsmore Mines are situated the lands of Bargally, the property of John Macke, Esq., who has given a mining license to another party, where trials have been commenced, and a large gossan lode, strongly mixed with lead, discovered within the last few days; the trials here are in an infant state, but the most sanguine expectations are entertained as to future results. The spirit of mining may, therefore, be regarded as moving into activity, and there can be no doubt, ere long, this will become one of the greatest lead mining districts in the United Kingdom, provided the zeal and perseverance we observe among miners generally, be brought to bear.—AN INHABITANT: *Newton Stewart, August* 1.

MINING IN NORTH WALES.

SIR,—A reply is made in last week's Journal to my notice, among other things, of the Cowarch Mine, by one who calls himself a "Miner:" will you oblige, by allowing me to ask him publicly his real name and address; as, whenever I make comments on mining, I never am ashamed to put my own name to them. We all know that the columns of your paper are open for fair discussion on all mining matters, so that the truth may be thereby elicited, which must tend to a public good. "A Miner" may jeer me for being only an engineer, and being wonderfully clever, &c.; but will he inform your readers (as he is an advocate for working mines on the principle adopted at the Cowarch) the quantity of work done—the time it occupied—the amount of money it cost the adventurers—and the present state of the mine; also to explain, how 20*l.* per month for whim work, in sinking 15 fathoms under adit, which occupied, I am informed, with its attendant excavations, more than 12 months, was more "prudent" than erecting a water-wheel, which I would any time be glad to do for 45*l.*, and keep the water in fork—including every expence for attendance, oil, bucket gearings, and pitwork labour—for 8*l.* per month. Now, the above figures show a great contrast in the expenditure for the very same amount of labour performed. But, as "A Miner" very kindly advises your readers to deduct 70 per cent. from all statements I make, in return, I think there is ample room for their allowing him a proportional indulgence in the amount of "prudence" he has displayed in his description of sinking the engine-shaft, &c., of the Cowarch Mine.—C. S. RICHARDSON, C.E.: *Whitefriars-street, City.*

THE ASTURIAN MINING COMPANY.

SIR,—When I look at the valuable and interesting subjects with which your Paper abounds, I feel mortified at being compelled, by the perversity of my opponent, "Nil Desperandum," to become a party, however unwillingly, in a correspondence, which, originating with me in two simple propositions, to avoid the real question at issue, and to supply a total absence of argument, "N. D." has converted into an occasion to impugn my motives, and to indulge in other personalities. It is said, by Hudibras, I think, that

"A man convinced against his will
Is of the same opinion still."

So let it be with "N. D.;" but I hope I may have succeeded in proving, to the satisfaction of my fellow-shareholders, that an unfair attempt was made to mislead them as to future calls, and that such of them as had delayed the payment of arrears, had good and sufficient reason to exhibit their want of confidence by so doing. Now, the very few remarks, which I trust to your further kindness to give place to, although they must take the form of a reply to "N. D.," will really be only addressed to the shareholders, who will be able to estimate the relative veracity of my opponent and myself, as to whether any more capital will be required, by further calls being discontinued or declared; and as to whether the last call has been readily responded to, by the appearance, or otherwise, of another long list of shares declared liable to forfeiture; which list, I suspect, cannot be much longer delayed.

At a general meeting, held on the 12th Feb. 1847, Mr. Pratt stated, that he had been informed, that the collieries would yield a surplus of 1400*l.* for the past 12 months, and that he estimated the profits for the current year (1847) at 3000*l.* Mr. Pratt also observed, with great regret, that it was necessary to prepare for a change, as regarded their superintendent (Mr. Manby), to whose abilities he offered his testimony, his engagement being only for a limited term; and as his other avocations would deprive the company of his valuable services, hence the directors were called upon to select another party (Mr. Lambert), who would proceed to the Asturias in a month from the present time (Feb. 12, 1847). Now, "N. D." says, in one of his letters, that Mr. Lambert was appointed as soon as doubts were entertained of Mr. Manby. Which of these directly contradictory assertions may be believed must be left to Mr. Pratt and "N. D." to settle; but as one gives the lie to the other, they cannot both be true.

An adjourned general meeting was held on August 30, 1847, more than six months since the last above-mentioned, in Feb., long before which adjourned meeting the misconduct of Mr. Manby, and its disastrous consequences, must assuredly have been known to the directors (and their favoured friends); and yet not one word escaped them on the subject, but we were again dismissed with the following comforting assurance—that, "should the shareholders resolve to divide the 12000*l.* expected to be realised by the end of the year (1847), from six months' working of the mines, it will equal 10 per cent. on the capital." This, it must be allowed, is hoodwinking, or something worse. I maintain, that it amounts to the *suppressio veri*, and to the *suggestio falsi*; and that it is highly injurious and insulting to the shareholders, and equally discreditable to the directors, that they, whose duty it was to inform the shareholders of the real state of the concern, should have concealed and suppressed the bad conduct of Mr. Manby, and his consequent dis-

missal, having alledged, as above, a totally different reason for his leaving; whilst, in the above interval of time, the shares have fallen from 8*l.* to 30*s.*

I did not allude to that entry in the balance-sheet which was noticed by Mr. W. My objection to it is on a much more important point—it is, that, instead of exhibiting, as a balance-sheet, properly so called, ought to do, by simple inspection, "so that one who runs may read," the cash balance to the credit or debit of the account, it is so prepared, that a pretended value of assets, amounting to 6818*l.*, is assumed, whilst, in reality, there is a deficiency of about 17,000*l.*

In answer to "N. D.'s" questions, I have to declare, that I was unfortunate enough to have been deluded, by a very cunning man, into the purchase of Royal North of Spain Railroad shares, at a premium; but that I do not know whether Mr. W. had, or had not, any. I was not one of those who procured a copy of the company's deed; nor was I one of those who were desirous of removing the then directors, and of installing myself in their place. "N. D." says he is not a director. I hope he is not, and that he never may be one, for "*ex quovis ligno, non fit Mercurius.*" I shall conclude by assuring "N. D." that the possession of a "*mens conscia recti*" enables me to form a very exact estimate of the value of his charges and personalities, and that my valuation is "Nil," without the "Desperandum."—DETECTOR: *Aug.* 24.

ACCIDENTS BY BLASTING.

SIR,—The numerous cases recorded of accidents occurring at mines and granite-quarries, from the incautious and dangerous plan of boring out holes that have failed to explode on first firing, and the consequent bereavements and loss occasioned to many families, induces me to suggest, through your columns, the necessity of avoiding any interference with holes after the first failure. For my part, I can see no compulsory means of effecting this; but would deeply impress on the labourers the great hazard to which they are exposed; and how often, through imprudence and perverseness—to save a few minutes labour in preparing a new hole, and thereby free themselves of danger—has their obstinacy led to consequences the most disastrous, ending in loss of life, or in their becoming cripples for lifetime. Doubtless, the frequency of these lamentable accidents ought to warn those engaged in the employ, of the danger of the practice too commonly resorted to; and I trust that this brief remembrance may have the desired effect in arousing them to a sense of the danger.

Ruby and Garlidna Mine, Aug. 21. W. J. COLLINS.

MINING IN SOUTH AUSTRALIA.

We received, at a late hour, yesterday, by the overland mail, *viâ* India, advices from our "South Australian Correspondent," giving very full details of the progress of mining industry in that interesting colony, which will be found appended. The Burra Burra, it appears, is still the queen of mines—the ore improving both in quality and quantity—the heaps increasing at the mine so fast, that carts cannot be got to take it away fast enough; and the quay at Adelaide, it is stated, groans under mountains of rich mineral, for want of ships to take it to Swansea. The company have advertised for carts, offering the increased price of 3*l.* per 21 cwts. from the mines to Adelaide. The reports of the Tungkillo, Princess Royal, Adelaide, and Montacute Mines, are highly favourable. The Paringa appears a failure, and the shares quite unsaleable; while the flaming accounts which have been circulated in London of the Barossa Range Mines, appears to be greatly exaggerated; the fact appears to be that, so far from the indications being of a favourable character, the mines appear to be scarcely known in the colony.

A report of the annual meeting of the South Australian Mining Association has also been forwarded, and which exhibits, perhaps, the most extraordinary and profitable development of mineral wealth in the whole history of mining speculation—the amount of dividends in the nine months ending March, being two of 50*l.*; one of 100*l.*; and two of 200*l.* = 600*l.* per cent.; the total raisings of ore during the year had been 13,533 tons; the quantity carted to port during the last six months was 9310 tons, averaging 358 tons per week; and the number of men and boys employed were 557. But we can only refer at present, without further remark, to its details, which will be given in our next.

The *Australian Gazette* for the 1st of April last (rather an ominous day to exhibit such a rabid state of intellect as it is here evident the writer laboured under), in a leading article, enters into an abusive tirade against the London directors of the Australian Mining Company, for not leaving the affairs of the shareholders quite uncontrolled in the hands of the local committee, and for directing, as far as distance will allow, the wishes and resolutions of the general body of proprietors, and such measures as the directors consider, for the general interest, to be strictly carried out. The delays in the return of ores, the error committed in the chartering of vessels for the shipment of ores before a ton was raised, and every untoward event which has happened to the company, is shuffled off the local committee, and laid to the charge of the ignorance and extravagance of the London board—while the local committee is lauded to the skies, as having been the saviour of the mines, and that without one sixpence in hand of funds belonging to the company.

We know not whether this rhapsodical production has emanated from the local committee, but we, in London, have certainly had a very different opinion of their extraordinary exertions for the interests of the company; and they will doubtless "flare up" a little more when they find that a general superintendent has been appointed to clip their wings. Upon the whole, the colony appears to be in a most flourishing condition, and only wants an annual influx of some half-million of inhabitants to render it, in a few years, the garden of the world.

Adelaide, April 19.—I take the opportunity of an overland mail being made up, to forward you copy of a few remarks sent on 30th March, by direct ship, as the present will, no doubt, reach you much sooner. I have since that date visited the Burra Burra Mine, and went all through her. I made a mistake in the inclosed report, in stating the pitches in work at the mine at 47—they number 72, and were all let at captains' prices, ranging from 1*s.* 1*d.* to 2*s.* 6*d.* As the annual general meeting of the proprietary of this mine takes place to-day, I hope to be able to forward you a copy of the report, which will give you the correctest information, down to the latest date. I enclose a leading article from "our" *Mining Journal* of 1st of April—not that you will publish such an abusive production in your respectable paper, but that you may cull from it some of the leading facts of the matter at issue between the London Australian Mining Company directors and the local directors. The reports from the Tungkillo Mines continue favourable; 30 or 40 tons of very good ore have reached the port, and, from the appearance of the stones, they must come from a big-sish lode. Every one in the colony will rejoice if this property goes on increasing in productiveness; for, although all profits will go to the English proprietors, much money must necessarily be spent in the working of the mine, besides having the effect of drawing the attention of the English public to the importance of our mineral riches, should they soon receive dividends from Tungkillo. Meetings of the Princess Royal and Paringa proprietary have been held lately, to receive reports for the half-year; you will find that of the former in the papers (the latter have not published any report). Paringa shares are at present quite unsaleable.

We perceive, by your last papers, that some parties in England are still palming upon you unwarrantable accounts of the prosperous prospects of the Barossa Mining Company. Pray, put a stop to this piece of humbug forthwith; it is too bad that the English public should be deceived into paying premium on shares which are absolutely worthless here; hardly any one knows even of the existence of the Barossa Mining Company; the local papers handle the subject very roughly; there is nothing whatever known in connection with the two or three excavations made by this company, to warrant the shares bearing one penny premium.

From the Adelaide Copper Mine, and the Montacute, more favourable accounts are being received; the latter, it is expected, will soon resume its produce of ore, as much of the dead work to get at the lodes is nearly completed.

Shipping is greatly wanted to take away the vast heaps of Burra ore lying on the wharf ready for shipment. It is really quite a pity to see the magnificent large Bremen emigrant ships leave this place in ballast, seeking freight, for the East Indies, when they would gladly take full cargoes to Swansea.

I regret to inform you of the stranding of the ship, *Success*, bound to London, from this port, with ore and wheat. She was in the act of crossing the bar, on her outward progress, when a violent thunderstorm burst upon her from the westward, accompanied by such a furious blast of wind, that she dragged with both anchors down; and, it being the very top of our highest spring tide, she landed so high on the beach, that but little hope is entertained of getting her off. Cargo and masts are now being taken out of her, and an attempt will be made to haul her off, when the steam-ship, *Juno*, arrives from Sydney, on her next trip. Such an accident is not likely to occur again. Our port is perfectly safe; but the entrance through the channel on the bar is awkward, if suddenly caught aback by contrary wind. A steam-tug, which has been long since ordered in England, is now daily expected; and vessels will then be towed in and out of the port, and placed in deep water at once.

April 22.—I beg to draw your especial attention to the enclosed report of the directors of the South Australian Mining Association (Burra Burra Company) at their third annual meeting. I believe you will allow that the Burra Burra is a "jewel of a mine." You will perceive that they propose, on the 1st day of every third month, paying to the fortunate shareholders a dividend of 200 per cent.—10*l.* per share quarterly, 40*l.* per share per annum. Let the shareholders of the London Australian Mining Company, therefore, take courage. If their Reedy Creek, and their other properties, have not yet turned out so favourable as they anticipated, they have, at all events, strong grounds for encouragement to persevere; for no one would pretend to say, that the colony contains no big lodes of copper, excepting on that hand's breadth of land worked at the Burra, no more than any one would have said the copper had all been worked out in England; when, lo! Wheal Maria is discovered exceeding in produce all preceding mines that ever were worked in England. Let them, therefore, take courage, say I. There are as good fish in the sea as ever came out of it; but tell the London directors, at the same time, not to send out any more chartered ships to take home their ore, before they know that there is any to ship, and then blaming the Adelaide directors for not having ore to fill them with. A very interesting account of the Burra Burra Mine has been published in Sydney, by a gentleman possessing some geological knowledge, who was down here a fortnight ago. I do not send it to you by this mail, but will forward it by next opportunity. His remarks and deductions on the extraordinary formation of the country of the Burra Burra, will interest you—being rather curious in their way. I am happy to say, that the *Success* got off yesterday, and will immediately re-load, and proceed on her voyage—she not having received any material damage.—X. Y. Z.

Adelaide, March 30.—I have not addressed you for some time, as no new discovery of any consequence has taken place. The Burra Burra continues to produce ore of the richest qualities, in almost incredible quantities; and the wharf, at Port Adelaide, is literally groaning under the weight of ore waiting shipping to take it to Swansea. On the 1st of this month, another dividend (the fifth) was paid to the shareholders of 10*l.* per 5*l.* share; but this paying of dividends is now looked upon as a matter of course, and ceases to be talked about as anything extraordinary. All the pitches at the mine (47 in number) are looking as well as ever, and are readily taken at captains' prices. Now that Mr. Burr, the late deputy surveyor-general, has got himself established, the whole operations are conducted like clock-work, and everything is in apple-pie order. Capt. Roach, the principal underground captain, continues to give the utmost satisfaction.

Owing to the disastrous accounts from England, a corresponding depression took place in the value of property and mining shares. All other mining shares are next to unsaleable at present, and the Burra Burra shares fell, during the panic, from 168*l.* to 100*l.* per 5*l.* share; they are now again up to 150*l.* These extraordinary fluctuations will, perhaps, astonish you; but it is necessary to explain, for the information of your readers, that the transactions were entirely limited to a very few needy holders of but few shares, who, having to meet bills by a certain day, were forced to take what they could get. Such momentary depressions are constantly taking place; and you will readily understand, that a rich harvest is reaped by those who have a little money ready for the occasion. Before the end of the year, I prophecy the shares will not be bought for 200*l.* a piece.

The engine at Kapunda is in course of erection: until she is up little ore can be raised. The *Medway*, Coombes, takes 200 tons from this mine, the first shipment for some time. The firm of Cockerill, Larpent, and Co., is believed to be largely interested in Kapunda.

By the *David Malcolm*, we have news from London to the 20th December. Your report of the meeting of the Australian Mining Company has been copied into all the papers, and been the subject of every conversation. As I cannot give you any very brilliant accounts of ores raised, and in course of shipment, the less I say about this company the better; but the shareholders must not lose courage; every mine cannot, at first starting, be a Burra Burra. It is said, rich ore is now being raised; in that case you have, of course, only to watch the Swansea sales lists. The shareholders must, however, stick to the mining part of their business. For agricultural purposes their property will be useless, till this province numbers some millions of inhabitants. It is also the general opinion here, that the 2000 shares returned to England, would scarcely have been placed at par—certainly not at any premium. The Emu Plains (alluded to in a former communication of mine) are now surveyed in 80 acre sections, and, when sold, some of these sections will fetch a very high price. It will be curious to see whether they will turn out well when worked, this being one of the places pointed out to to the local directors of the Mining Company of London, but which they did not think fit to take when they were selecting the site for their special survey. The Government here seem to be in earnest about the royalties—a collector of royalties, or toller, as he is called, being now appointed. But, depend upon it, they must give it up sooner or later—it will not do. All the other mines are going on quietly; and, on the whole, the colonists show great prudence, and no disposition to enter upon that course of mad speculation which has so often been foretold would be the case. The Swansea sales of Burra Burra ore, for the first week in December, as reported in your Journal, have had the effect of immediately restoring the price of the shares to their former position in the market. Mr. J. B. Graham, who holds 448 shares, lately proceeded to England, *vid* Calcutta.—X. Y. Z.

THE EMERY TRADE OF GREECE.—The advices received from Athens mention that M. Vermersch, the Belgian minister, had forwarded to his Government a report on the emery trade in Greece. From this document, it appears that the quality of the emery obtained at Naxos is superior to any other, and even improves the more the mine is worked. M. Vermersch observes that the trade is wholly monopolised by the Government, and the emery is sold at Athens by public sale. During last year 30,000 cwts. were disposed of at the average price of 18*f.* the 100 kilo., first cost; but the delivery entails further very considerable expenses, as the emery is delivered in small lumps upon the coast of Naxos. The purchase money is required to be paid before delivery of the article. The sale last year took place in November, and the Belgian minister considered that the sale this year would be about the same period. The English and French purchasers, it is mentioned, accredit agents at Athens with funds, or let them draw on their behalf on London, Marseilles, or Trieste, but as London afforded the greatest facilities, the greater portion of the bills was drawn on this country accordingly. M. Vermersch also mentions, that Belgium receives her supply of the ore from England and France, and suggests whether it would not be advantageous for his country to erect the necessary mills for converting the emery into powder, and purchasing at first hand.

THE IMPERIAL SLATE QUARRIES.—These quarries, so well known in our division of the county, for their production of superior slates, and their employment of a number of our people, were, in consequence of the existing state of Ireland, about to be closed and abandoned by the directors of the company, who came to that determination in the month of March last. This calamity, we trust, will be avoided, or at least postponed for another season, through the exertions of Mr. W. R. Collett—so justly termed the poor man's friend. Mr. Collett was, unfortunately for this establishment, absent from England at the time the directors came to the resolution of disbanding their works; but on his return, feeling how hazardous to the people it would be to throw out of employment such numbers of quarrymen and labourers, is making arrangements to continue the works, which, by-the-bye, from the judicious views of the excellent manager, Mr. W. Headech, were never stopped. Mr. Collett's intention, we believe, is to pay off all the liabilities of the concern, and all the shareholders who wish to retire from their responsibilities as such, and with a smaller and more select directory continue the manufacture of slates in these quarries, which will prove to be a double advantage to the community at large—namely, supplying an excellent and good article, both indispensible and useful, and affording constant employment to perhaps 400 or 500 persons, who, from the fearful calamity of the potato disease before their eyes, would otherwise be thrown upon the resources of the country, or perish in their mountain district. Mr. Collett arrived in Nenagh on Wednesday last, and, after a brief delay, proceeded to the quarries to inspect the works.—*Nenagh Guardian.*

BLAENAVON.—We think we may safely announce, and we feel much pleasure in doing so, that two furnaces will be put in blast at Blaenavon Iron-Works, in the course of next week. Garnddyris Works, we are glad to learn, will also be in motion in a few days.—*Monmouthshire Merlin.*

IRON BRIDGE FOR THE NEWPORT AND PONTYPOOL RAILWAY.—We are pleased to learn that our spirited townsman, Mr. N. Bowen, of the Newport and Pillgwenlly Foundry, is now engaged in the execution of an order for the Newport and Pontypool Railway, consisting of the iron bridge intended to cross the canal at Pontymoile, the dimensions and weight of which are somewhat extraordinary—the bridge being 52 ft. span, the girders between 9 and 10 tons, and the abutment plates between 5 and 6 tons each. We understand that the work will be of an excellent character, and present a fine feature on the line. The structure, it is stated, will be fixed before the end of the ensuing month. It appears that, at the foundry above-mentioned, although the usual rate of melting is one ton per hour, which is considered fair work, that by an improved "blower," Mr. Bowen is enabled to melt 6 tons in three hours.—*Ibid.*

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£15½
20,000	British North American	50	6	42
20,000	Colonial	25	5	4
—	Commercial of London	20	6	18½
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	14½
30,000	London and Westminster	20	6	21
10,000	National Provincial of England	35	5	33½
20,000	National of Ireland	22½	5	18
20,000	Provincial of Ireland	25	8	37 36
4,000	Ditto New	10	8	14
—	South Australia	22½	—	23
20,000	Union of Australia	25	6	22½ 23
10,000	Ditto New	2½	6	2½ 2¼
60,000	Union of London	16	6	10½

QUESTION OF DAMAGES ATTENDANT ON MINING OPERATIONS.

The question referred to in the letter of a correspondent in last week's Journal, touching the death of an animal, which was assumed to have been caused by "eating lead ore," has, we find, been brought before one of the local courts of Flintshire—a brief report of the proceedings at which we collect from data furnished us by "An Adventurer." The case came on for hearing before his Honour of the County Court, held at Mold, on the 14th inst., with a jury of *five*, the result of which we were not cognisant at the time of making our comments on the letter of our correspondent, which appeared in our last. From the information acquired, we now find that the jury came to the conclusion, that the death was attributable to the cause complained of, and hence a verdict for the plaintiff. The evidence afforded at the trial, which lasted some five or six hours, did not appear to have been deemed conclusive, inasmuch that the jury having retired for two or three hours, and not having even "lead ore," or any other substance, whether mineral, animal, or vegetable, with which they might indulge their appetites, came to the sensible conclusion, that as they differed in opinion as to the merits of the case, and the nature of the evidence afforded, the most ready way to arrive at a verdict, which would enable them to be restored to their respective families, was to draw lots, which was accordingly done, and the plaintiff gained his cause, by a verdict being given in his favour for 40*s.*, in addition to 3*l.*, which the defendant had subscribed towards the loss sustained by the plaintiff, who, it appears, was a poor man, occupying the land, or surface, and, moreover, being employed at the mine—such subscription being voluntary, and not as an admission of any claim, the dressing-floors, water-leats, &c., having been fenced off, under the supervision of the plaintiff, or one of his family, and as was considered, to his entire satisfaction.

There can be no doubt but this donation was treated by some of the jury as an admission of the claim put forward, and hence the difference of opinion that existed among them. A further illustration of the propriety, if not the necessity, of care being observed, even in doing a good action, that it may not be turned to account, and to the disadvantage of the party who, from kindly feelings, may thus have afforded evidence against himself. The cow, whose death was attributed to the lead ore, it appears, was purchased in November last, and died in March, having been kept nearly all that time under cover; while two other cows, the property of the family, have been grazing on the land for the past two years, without having sustained any injury. It is to be observed, that the absence in the one case is no answer to the presence in the other, as there are a variety of causes which might be adduced by way of explanation. It appears that nails, sand, *lead*, and about ¼ oz. of lead ore (galena), were found in the stomach of the animal, to which its death was ascribed; while, on the part of the defendant, evidence was offered to prove, that in two cases animals had lived to the respective ages of 14 and 18 years, although they had been accustomed to drink "lead ore water;" and, upon being *killed*, were found to have lead ore in their stomachs. This, however, as we before observed, does not appear to be convincing, or conclusive, in itself, as it might be possibly an exception to the rule. It was proved on the trial, that the lead ores which were raised from the mine did not contain any arsenic, and the opinion advanced, that in the state of ore it was not injurious to cattle. We have thus entered at some length on the question, inasmuch that there are several points bearing upon it, which may be of moment in other localities—the present being, as we believe, a "sample" trial, which, we doubt not, will yield, in its results, good "produce" to the lawyers,

AUSTRALIA AND NEW SOUTH WALES—COLONISATION.

The great importance at the present moment of extensive emigration, with a view to legitimate colonisation, renders every information connected with our far distant, yet fertile and wealth promising dependencies—the Australias—of the utmost interest to all. The minutes recently published by the Lord's Committee, "On Colonisation," contain a number of interesting statements respecting each individual colony, which, although not by any means new to our columns, will, as general information, be valuable. Commencing with Australia, they state that the population of the colony of New South Wales was—in 1846, 189,609 persons—the number in Sidney (the capital) being 50,000, with a considerable disproportion between the sexes. In 1845, the quantity of land under cultivation was 163,331 acres; sheep, 8,000,000—of which 900,000 were boiled down for tallow in 1847, yielding a profit of 5*s.* per head; the annual average of the fleece, if labour could be obtained to secure it, would be about 4*s.* Among the agricultural pursuits of the colony, the introduction of the grape has been of the most importance. The Rhine grape, the genuine claret grape, and the Constantia, have been planted, and yielded a vintage in 16 months—the latter grape produces a clean, dry wine, the colour of amber; and it is believed, by experience and skill, it will lead to something original. The olive has also been introduced, and thrives wonderfully; and, instead of 20 years, as is erroneously supposed, being required to come to perfection, a good crop is obtained in three years, if judiciously planted. Coal, it appears, is abundant in New South Wales in many districts, cropping out at surface, and has been ascertained to be of great thickness. Copper mines, of inexhaustible extent, have been discovered about 150 miles from Sidney, in Bathurst county. Steam communication exists from Sidney to Melbourne, Launceston, and Adelaide; the colonist are anxiously awaiting the introduction of the railway system; and a line had been surveyed from Sidney to Melbourne, some 120 miles.

PORT PHILIP.—The population in this district, in 1845, was 32,879—Melbourne (the capital) having 11,000. The revenue was 89,118*l.*; and expenditure, 69,748*l.* Imports, 205,390*l.*; exports, 342,624*l.* There is a tract of land extending from the port 200 miles in length, and about 25 miles wide, considered equal to any land in Great Britain; at present, it is only cultivated by squatters—one of whom reaped a patch of wheat producing 65 bushels to the acre. The want of labour is greatly felt; but, being a new settlement, capital is required with it.

SOUTH AUSTRALIA.—This colony was founded in 1834, and practically established in 1837; its present population is 35,000; in 1846, the land under cultivation was 33,647 acres; its exports 313,000*l.*, imports 330,000*l.*; in 1845, its revenue was 32,099*l.*, and expenditure 36,182*l.*; the quantity of land possessed by the South Australian Company is 60,000 acres, the quantity of which leased to tenants was 9612 acres, up to last year. They describe the copper districts of this colony as the richest in the world; in 1847, it was calculated that 30,000*l.* was paid for cartage alone. The agricultural produce is decidedly good—its wheat realises the highest prices, and averages 25 bushels an acre; and the fertility of the soil is such, that they grow wheat year after year, without any rotation; lime for manure may be had in abundance. The number of sheep in the colony is 1,000,000. There is now a communication overland from Adelaide to Sidney, 1000 miles, but at present principally used for cattle and sheep.

QUICKSILVER MINES OF CALIFORNIA.—The following flourishing account of the general state of things in California is given in the American papers:—"Trade is fast increasing here, and farm lands are fast rising in value. House lots in towns have risen 1000 per cent. in value. Mines are discovered in many places, but quicksilver is to enrich California beyond all other mines. There is one now in operation belonging to Barron, Forbes, and Co., an English house in Mexico. The workmen at this mine have only the common try-pots, a few picks and crow bars, and for a few days past have bottled off $800 per day—I presume the expenses are less than one-quarter. The ore is simple rock, mostly of a red colour; is merely broke and heated, producing one-fourth its weight in pure metal. By dropping a pinch of it on a hot iron, covering it with a tea-cup two minutes, the cup is covered with the smoke; this being rubbed carefully by the finger, in some cases, produced a globule the size of a small pea. Almost the same expense and labour employed in Pennsylvania, in obtaining a ton of iron, will obtain a ton of quicksilver in California. Neither you nor your readers are expected to believe this most incredible story; yet, such is the fact. The quicksilver obtained at the Forbes Mines, in one week, will pay for the machinery. When the expected works from Europe reach this country, the tons of quicksilver will show for itself. Near the Puebla de San Jose there is a mining company established, who do not wish to commence working their quicksilver ore until they have proper machinery. They are not satisfied with the slow process of Barron, Forbes, and Co.; who, however, this month, make their first shipment to Mazatlan, of $20,000. So California this month makes the first move towards shipping this all-important article to work the Mexican gold and silver mines. Many other valuable mineral deposits have been discovered at San Jose de Guadaloupe, in the northern part of Upper California. Quicksilver, silver, and zinc, appear to be the most abundant. The quicksilver ore yields, upon an average, about 14 per cent., silver about 50 per cent., and zinc about 80 per cent. As to gold, it is said that several mines containing precious metal exist in these parts—I have seen none extracted."

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 9 per Cent., 197½ 6½
3 per Cent. Reduced Ann., 86⅝ ⅞
3 per Cent. Consols Ann., 86½ ⅝
3½ per Cent. Ann., 86⅞ 7⅛
Long Annuities, 8⅛
India Stock, 10½ per Cent., 240
3 per Cent. Consols for Acct, 86⅝ ½
Exchequer Bills, 1000*l.* 2d. 26 29 pm.

Belgian, 4½ per Cent., 70
Dutch, 2½ per Cent., 44⅛ ⅜
Brazilian, 5 per Cent., 72 3
Chilian, 6 per Cent., 86
Mexican 5 per Cent., 17 16⅛
Russian, 5 per Cent., 101
Spanish, 5 per Cent, 12½ ⅜
Ditto 3 per Cent., 23 2½

MINES.—Although some transactions have taken place during the week, we do not find the share market generally to have maintained the position we anticipated it would last week. Inquiries, however, have daily been made for particular mines—still, as we have observed, little busines has actually resulted.

South Tolgus has considerably improved, and buyers are on the alert.

The improvement in Treviskey, noticed in our last, has been confirmed—the lode in the bottom level being worth 30*l.* per fathom.

Condurrow, South Basset, Trelawny, South Frances, South Trelawny, and Carn Brea, are among those in demand, but sellers' prices are not generally entertained.

Shares in the following mines have been sold during the week—viz.: Carn Brea, East Wheal Rose, Condurrow, Trehane, Pennant, East Tamar, Wheal Franco, Devon and Courtenay, East Crowndale, South Wheal Basset, Lewis, Trethellan, and Mendip Hills.

South Wheal Tolgus bi-monthly account was held on the 10th, when a call of 30*s.* per share was deemed necessary. The captain's report held out the prospect of an increase of returns for the next account.

Plymouth Wheal Yeoland account-meeting was held on the 23d inst., for June and July; the costs appear to be about 590*l.*, and the returns 133*l.* 15*s.* for the two months. A favourable report was presented, and the lords had consented to a reduction of dues, from 1-12th to 1-15th, for the next seven years. We had been led to expect far greater returns, from the reports furnished some 12 months since.

There has been a little animation in the foreign share market, by the demand for Australian shares, which have advanced considerably, in consequence of the gratifying reports received from the mines.

United Mexicans have been done at receding prices, notwithstanding a remittance of upwards of 4000*l.*, received since our last.

Bolanos, St. John del Rey, and Alten, have also changed hands.

The Anglo-Mexican report furnishes the gratifying intelligence of an improvement at the mines, but the value, or extent, has not yet been ascertained. The month of June shows a loss of $371, but the two last weeks give a profit of $183, which reduces the total loss to only $188.

Dispatches have been received from the Bolanos Mines, up to the 3d July, which advise improvements in several of the mines.

The National Brazilian and the St. John del Rey Mining Associations received their letters on the 18th inst., but too late to furnish copies of reports for last week's Journal. The returns from the former mines have considerably increased—the produce from Cuiaba and Cocaes, for 10 days in May and June, being, mks. 14 3 7 37. The reports from St. John del Rey are considered highly satisfactory. The newly-discovered lode is reported to be looking very promising, but its real value will not be ascertained till a further quantity be broken, and fairly tried. The produce for May is 16,899 oitavas, leaving a profit for the month of 2175*l.* 4*s.*

Since our last, the Australian Mining Company have received dispatches from the mines, which appear to have assumed a very gratifying change. The returns from Tungkillo alone have considerably increased, with every prospect of a progressive improvement; the present are estimated at 40 tons per week, worth 20*l.* per ton, exclusive of the charges incurred in raising the same. We also learn, that 500 of the shares allotted to the colonists, have been accepted by Mr. Montefiore, which had remained in a state of abeyance, until the mine had improved so much as to render them acceptable.

The adjourned meeting of the National Brazilian Mining Association was held on Monday last, for the purpose of receiving the report of the committee appointed at the meeting in June, to consider the propriety of working the mines on the plan proposed by Mr. Collett. The report of the committee states, that "after a laborious and anxious investigation, they have come to an unanimous opinion, that the adoption of Mr. Collett's plan is decidedly inexpedient." A long and warm discussion ensued, and a further adjournment to Monday took place. It is but due to the committee to state, that they have discharged an arduous duty in a laudable manner, and, after incessant labour, have furnished an elaborate and perspicuous statement of the affairs of the company.

By American papers, we learn that in California some very rich deposits of metalliferous ores have been discovered, especially those of silver, quicksilver, and zinc. The former averaging 50 per cent., quicksilver, 14, and zinc from 75 to 80 per cent. It appears that large returns have been obtained from quicksilver, by the crudest possible means, and that $300 value per day have been bottled off by one firm, who have shipped $20,000 worth for the Mexican gold and silver mines. Another company had been established, but were waiting the arrival of machinery, &c., of a more scientific character, before they commenced operations extensively. We have made inquiry, but do not learn that any of the British companies' mines in Mexico have received any remittances of quicksilver but what has been shipped from England.

Under the head of "Secretary." in another column, will be found a paragraph, taken from the police reports of our morning contemporaries of Tuesday, relating to some observations of the Lord Mayor, on a letter recently received by his lordship. In consequence of an allusion to the mining office referred to, being in the locality of the Mansion House, we considered it a duty, as well as for the credit of the many highly respectable mining offices in that neighbourhood, to make every inquiry respecting the same; and we have succeeded in learning, that the party suspected has made his exit beyond the civic jurisdiction; and we much regret, that a greater *exposé* had not taken place, to guard the public against this novel system of "raising the wind."

We have also been advised of a commercial traveller, representing a respectable firm near London-bridge, having undertaken to sell mining shares as well as *groceries* in his travels; and we also learn, that scrip certificates, representing shares in a sett not 50 miles from St. Neot's Church, have been sold to tradesmen in country towns, far distant from any mining operations; but as we purpose ascertaining if such a sett be in existence before we expose the parties, we shall defer the subject until the inquiry has been made.

By the Indian mail, we have received advices from Calcutta and Bombay, dated respectively the 1st and 9th July, by which we learn that a considerable improvement had taken place in the metal market. Copper had met with an active demand, and a great quantity changed hands, in some instances, at a slight advance on former quotations; and although the demand had experienced a check, prices appeared to be well supported. Spelter maintained former quotations, but the demand for lead and iron was not so great.

The following arrival of specie has taken place since our last:—The *United States* steamship arrived at Cowes, on Friday night, from America, having on freight $116,000 in specie. The Royal Mail steam-ship, *Europa*, arrived at Liverpool, on Sunday morning, from the United States; she has brought from New York about 1000*l.* in specie, on freight, being the smallest amount received from that continent for a long period. The Royal West Indian Mail Steam Company's ship, *Great Western*, arrived at Southampton, on Sunday evening, having on freight 8679,209 gold coin—value, 2064*l.* 14*s.* sterling; 333 ozs. of gold dust—value, 1250*l.* sterling; 1874 five franc pieces; 1669 ozs. of silver; and 100 guilders—total value of specie, 139,928*l.* sterling. The Peninsular and Oriental Steam Navigation Company's ship, *Montrose*, arrived at Southampton, on Thursday morning, having on freight 51 packages of specie—value, 20,000*l.* sterling.

RAILWAYS.—The railway market was firmer at the commencement of the week, and prices partially recovered the decline of the previous Saturday. Business was rather more dull on Tuesday, but rallied again on Wednesday, when there was a marked activity in business, without a corresponding increase in prices. On Thursday, and yesterday, transactions were limited; but the market closed last evening without any particular falling off in prices. The following half-yearly meetings have been held during the week:—York and North Midland; York, Newcastle, and Berwick; Exeter, Yeovil, and Dorchester; Llynvi Valley; London and Blackwall; South Wales; Whitehaven Junction; Vale of Neath; Tenby, Saundersfoot, and South Wales; Gloucester and Dean Forest; Northern Counties Union; East and West India Docks; Birmingham Junction; Norfolk; London and South Western: Buckinghamshire; Eastern Union; and special meetings of the Birmingham and Oxford Junction, and the Caledonian.

HULL, THURSDAY.—Several meetings have taken place since our last; and we are glad to observe more disposition on the part of the directors to give information to the shareholders than heretofore. This is as it should be: and, unless we are much mistaken, will prove one of the best restoratives for the railway system. The Great Western pay at the rate of 7 per cent., and the Brighton 13*s.* per share. The report of the latter company, all things considered, is not very unsatisfactory. The Eastern Counties pay 8*s.*; the communication of this line, in October next, with the northern part of the Great Northern, will throw much traffic upon it for a time. The South-Eastern (dividend a guinea per share) is decidedly one of the best reports of the half-year—perhaps the best. The directors are evidently economical and energetic—two very good qualities in a board of management. The Midland pays at the rate of 6 per cent., and both the York lines—viz.: the York and North Midland, and the York, Newcastle, and Berwick, at the rate of 8 per cent. Nothing important transpired at these meetings.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars .... per oz.	£3 17 9	New dollars ..... per oz.	£0 4 10
" Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11⅛

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Rotterdam, 18,000 ounces; ditto to Hamburgh, 32,000—Silver bars to Hamburgh, 115,000; ditto to Rotterdam, 12,000—Gold coin to Rotterdam, 12,040; ditto to Hamburgh, 3146; ditto to Calais, 320.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7 ..	—
512	Albert Consols	1 ..	2½
1024	Alfred Consols	4½..	5
235	Andrew and Nangiles	28½..	5
1000	Antimony and Silver-Lead Mining & Smelting	5 ..	6½
1024	AshburtonUnited Mines	8½..	10
1624	Balleswidden	9 ..	18
128	Balnoon Consols	25 ..	25
10000	Banwen Iron Co.	6 ..	6½
1000	Barristown	4½..	1
4000	Bedford	2½..	2
1244	Birch Tor Tin Mine	9½..	1½
8000	Bluenavon	50 ..	17½
100	Botallack	175 ..	60
120	Brewer	5 ..	7
10000	British Iron, New, regis.	10 ..	13
—	Ditto ditto, scrip	10 ..	10
128	Budnick Consols	52½..	35
128	Callestock	17 ..	30
1000	Callington	19 ..	20
1000	Camborne Consols	5 ..	6
20000	Cameron's Steam Coal	6 ..	1
256	Caradon Copper Mine	9½..	2
256	Caradon Mines	22½..	10
256	Caradon United	24 ..	5
256	Caradon Wh. Hooper	21 ..	10
1000	Carn Brea	15 ..	95
3000	Carthew Consols	1½..	5
2048	Cascade	1 ..	2
112	Charlestown	220 ..	60
512	Coatlithe Hill	½..	1
500	Comblawn	5½..	6
128	Comfort	45 ..	50
256	Condurrow	20 ..	26
2560	Cook's Kitchen	14 ..	2
1000	Coombe Valley Quarry	3 ..	4
6500	Cornish Mining Co.	2 ..	2⅜
20000	Cornwall New Mining	1 ..	1
1000	Copper Bottom	1½..	6½
1024	Cosheen	4½..	20
225	Craddock Moor	16½..	5
128	Creeg Braws	120 ..	100
500	Cubert Mine	12½..	10
1000	Cwm Erfin	3½..	1½
300	D.Prior & Buckfastleigh	14 ..	26
7100	Derwent	8½..	5
845	Devon&CourtenayCon.	7½..	1½
1024	Devon Great Consols	1 ..	210
1000	Dhurode	2 ..	5
186	Dolcoath	30 ..	15
2560	Drake Walls	4 ..	4
10000	Durham County Coal	45 ..	9
3000	Dyfngwm	10 ..	12½
512	East Alvenney	5½..	12½
112	East Caradon	47 ..	47
2048	East Crowndale	5½..	2½
512	East Combe Silver-Lead	6½..	6½
128	East Pool	5 ..	10
100	East Relistian	22 ..	40
9000	East Tamar Consols	½..	½
—	East Wheal Albert	1 ..	3
94	East Wheal Crofty	125 ..	280
1024	East Wheal Fortune	2 ..	3
1024	East Wheal Friendship	3 ..	3½
128	East Wheal Rose	50 ..	800
—	East of Scotland Iron Co.	2½..	1½
123	East Wheal Seton	14 ..	10
256	Elborough	1½..	2
256	Exmoor Wh. Eliza	4 ..	6
512	Fowey Consols	40 ..	45
1024	Freidd Llwydd Mines	1½..	3½
6400	Gadair	2 ..	2
20000	Galvanised Iron Co.	10 ..	1½
4000	Gen.Mining Co.for Irel.	1½..	1½
2048	Goldscope Mine	2 ..	2
256	Gonamena	34 ..	8
128	Goonvrea	4 ..	1½
100	Great Consols	1000..	400
2560	Great Michell Consols	1½..	3
256	Great Resugga Moor	11 ..	6
512	Gt.Wh.Rough Tor Con.	17½..	20
100	Grogwinion	5 ..	—
256	Gwinear Consols	7 ..	3
6000	Helgnston Down, Con.	½..	2½
256	Herodsfoot	18 ..	26
10000	Hibernian	12½..	1½
239	Hobb's Hill	6 ..	3
1000	Holmbush	19 ..	1½
827	Kirkcudbrightshire	5½..	2
2048	Lamherooe Wh. Maria	11 ..	4
128	Lelant Consols	90 ..	60
160	Levant	— ..	120
1000	Lewis	15 ..	4
1000	Llwyn Malees	5 ..	—
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols	15 ..	15
6000	Marke Valley	10 ..	2
5000	Mendip Hills	2½..	¾
5000	Merionethshire Slate & Slate Slab Co.	1½..	2
128	Metha	34 ..	133
20000	Mining Co. of Ireland	7 ..	4½
256	New East Crowndale	3½..	2½
128	North Fowey Consols	37 ..	10
100	North Pool	45 ..	350
140	North Roskear	5½..	155
256	North Wh. Abraham	1 ..	1
262	North Wh. Leisure	1½..	2
15000	Northern Coal Co.	23 ..	2
128	Par Consols	— ..	1000
4000	Pennant	1½..	1
100	Penrhiw	30 ..	65
1024	Penzance Consols	16s 3d..	1
1280	Perran St. George Un.	13 ..	20
128	Perran Wh. Virgin	9½..	10
512	Plymouth Wh. Yeoland	6½..	15
256	Polsaith Consols	4½..	7
10000	Rhymney Iron	50 ..	13
10000	Ditto New	7 ..	6½
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
3072	South Callington Mine	2 ..	½

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
128	South Caradon	10 ..	400
1100	South Dolcoath	4 ..	4
256	Sth. Friendsh. Wh. Ann	20 ..	4
300	South Harvannah	10 ..	25
256	South Molton	5 ..	8
256	South Tolgus	10 ..	35
256	South Trelawny	20 ..	12
128	South Wheal Basset	110 ..	120
256	South Wh. Betsey	2½..	12½
124	South Wh. Frances	160 ..	200
1000	South Wh. Maria	2½..	1½
10000	Southern&Western. Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols	9 ..	—
94	St. Ives Consols	— ..	320
128	St. Michael Penkivel	5 ..	10½
999	St. Minver Consols	1 ..	6
1000	Stray Park	43 ..	14
9600	Tamar Consols	3 ..	5½
1024	Tavy Consols	4 ..	8
6000	Thurcroft	7 ..	5
1000	Tin Vale	2½..	3½
128	Tokenbury	152½..	10
256	Tollpetherwin	3½..	5
256	Tregurdan	1 ..	7
256	Trehane	2½..	26
5000	Treleigh Consols	6 ..	1½
2000	Trenance	3 ..	18
95	Tresavean	10 ..	210
120	Trethellan	5 ..	15
120	Treviskey and Barrier	130 ..	85
288	Treveal	1½..	5
100	United Mines	300 ..	350
256	Wellington Mines	15 ..	10
128	West Basset	45 ..	7
256	West Caradon	20 ..	100
128	West Cargoll	2 ..	12
512	West Fowey Consols	40 ..	15
256	West Providence	9 ..	12
200	West Seton	40 ..	160
—	West of Scotland Iron Co.	210..	210
120	West Trethellan	5 ..	30
256	West United Hills	— ..	4½
512	West Wheal Frances	1½..	2
256	West Wh. Friendship	9 ..	8
3725	West Wheal Jewel	11 ..	1½
2560	West Wh. Maria	3 ..	¼
256	West Wheal Tolgus	21½..	3½
256	West Wheal Treasury	19 ..	8
5200	Wicklow Copper	5 ..	9½
184	Wheal Adams	51 ..	10
1000	Wheal Agar	— ..	8
256	Wheal Albert	19 ..	1
256	Wheal Allen	2 ..	5
240	Wheal Anderton	23 ..	18
128	Wheal Ann	— ..	50½
512	Wheal Anna Maria	6½..	8
1024	Wheal Ash	4½..	8
120	Wheal Bal	5½..	20
2560	Wheal Barbara	1½..	4-5
256	Wheal Benny	12½..	7
256	Wheal Blencowe	21 ..	5
256	Wheal Bucketts	20 ..	5
256	Wheal Calstock	5 ..	10
136	Wheal Clifford	190 ..	50
1024	Wheal Coad	½..	75
268	Wheal Courtenay	12½..	15
256	Wheal Fortescue	6½..	5
388	Wheal Franco	27 ..	15
128	Wheal Harriet	45 ..	50
256	Wheal Jane	21 ..	15
1024	Wheal Lawrence	2½..	6
256	Wheal Louisa	8½..	8
112	Wheal Margaret	79 ..	250
512	Wheal Mary Ann	5 ..	13
237	Wheal Mary Consols	42½..	5
—	Wheal Penhale	— ..	12
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	41 ..	150
128	Wheal Rose	60 ..	15
99	Wheal Seton	214 ..	700
194	Wheal Sisters	32½..	12
512	Wheal Sophia	3½..	5
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	30 ..	35
550	Wheal Trescoll	2 ..	10
260	Wheal Trelawny	7½..	60
256	Wh.Tremaine(St.Ervan)	7½..	4
1024	Wheal Tremayne	35 ..	1½
92	Wheal Tryphena	140 ..	265
242	Wheal Venland	29½..	30
256	Wheal Vlow (Ferranz.)	½..	½
184	Wheal Vyryan	— ..	60
250	Wheal Williams	28½..	8
1024	Whiddon Mines	4½..	4½

FOREIGN MINES.

5000	Alten Mining Company	1½..	2½
15000	Asturian Mining Co.	13 ..	2½
20000	Australian	2½ ..	4
10000	Anglo-Mexican Co.	100 ..	¼
12374	Ditto Subscription	25 ..	2½
6000	Barossa Range	½ ..	1
3000	Bolanos	150 ..	2½
2000	Ditto Scrip	15 ..	3
12000	Brazilian Imperial	23 ..	4
10000	Cobre Copper Co.	40 ..	15
10000	Copiapo Mining Co.	14 ..	2
10000	General Mining Ass'n.	20 ..	11½
5000	Kinzigthal Mining Ass.	2 ..	3
20051	Mexican Company	59 ..	—
2000	Mexican & SouthAmer.	8 ..	¼
5000	Mocaubas & Cocaes	30 ..	6
100000	N. Brit. Australasian	1 ..	½
29320	Rl.del Monte, regis. / Ditto unregistered	28½..	⅝-½
	Ditto Red Debentures	— ..	4
	Ditto Black ditto	— ..	3
	Ditto Loan Notes	150 ..	26
7000	Royal Santiago	10 ..	5
11000	St. John del Rey	15 ..	7½
43174	United Mexican	Av.	2⅝.. 3½

SOUTH AUSTRALIAN SHARE MARKET—APRIL 18.

Company.	*No. of Shares.*	*Capital.*	*Paid-up.*	*Present Price.*
Burra Burra	2464	£12,320	£12,320	£145 0
Princess Royal	400	20,000	16,000	40 0
Adelaide	2000	10,000	10,000	4 10
North Kapunda	436	21,800	21,000	15 0
Royal Mining Company	10000	100,000	10s. p. sh.	0 15
Enterprise	1000	3,000	£2,000	3 0
Greenock Creek	300	1,000	1,000	6 0
Montacute	100	5,500	5,500	55 0
Paringa property, per acre				3 0

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns.* 1848	1847
Birkenhead, Lancashire, & Chesh.	15	997,284	37	5*p.c.**	£952	808
Caledonian	141	3,594.470	23	—	5431	—
Chester and Holyhead	59½	2,871,470	25	4	2213	—
Dublin and Drogheda	35½	754,529	23½	—	738	1003
Dublin and Kingstown	7⅞	395,915	—	6	931	1188
Dundee, Perth, & Aberdeen Junc.	47½	415,073	25½	8	1204	1120
East Anglian (Lynn to Ely)	55½	1,062,742	5½	—	567	—
East Lancashire	31	1,733,915	17	5	1525	998
Eastern Counties and Norfolk	295	9,833,859	14⅜	4	15021	14909
Eastern Union	51⅛	979,926	20	7½	1387	1218
Edinburgh and Glasgow	57½	2,481,767	39⅜	—	4423	4508
Edinburgh and Northern	48½	1,392,092	16⅜	4*	2205	—
Glasgow, Paisley, and Ayr	70	2,097,321	61	6	3328	2820
Glasgow, Paisley, & Greenock	22½	845,515	14⅜	4	1684	1347
Gt. Southern & Western, Ireland	131	1,809,787	22½	4*	2785	2080
Great Western	286⅜	10,970,636	84	7	21297	21542
Kendal and Windermere	10½	169,888	23	—	240	240
Lancaster and Carlisle	70	1,395,193	46	4	2573	1699
Lancashire and Yorkshire	154½	7,597,618	86	7	12678	11406
London and North Western	435	21,513,354	117	8	46406	49073
London and Blackwall	4	1,241,061	4½	1⅞	1170	1406
London, Brighton, & South Coast	162½	6,087,822	29⅝	4	10184	10660
London and South-Western	196	6,264,164	43	8	11088	10889
Londonderry and Enniskillen	14½	145,135	16	5	140	288
Manchester, Sheffield, & Lincolnsh.	62½	2,336,624	57½	5	3105	2525
Maryport and Carlisle	28	440,851	40	—	675	621
Midland Company	423½	9,853,122	93	7	24691	23193
Midland Great Western (Irish)	36½	725,332	10½	4*	806	900
Newcastle and Carlisle	66½	1,407,375	108	6	—	2703
North British	82	2,800,748	19½	5	3153	2950
Scottish Central	45	1,144,810	22	—	1260	—
Shrewsbury and Chester	23	780,272	14	—	852	519
South Devon	50½	1,609,071	16	5	1677	1087
South-Eastern	165½	6,932,181	26⅛	6½	10208	10979
Taff Vale	38	820,056	125	5½	1607	1583
Ulster	36	684,684	45⅛	4½	763	861
Whitehaven Junction	12	147,095	7	4½	196	260
York, Newcastle, & Berwick	269	4,466,526	30½	9	14073	13408
York and North Midland	234	3,799,297	62	10	10347	9322

LATEST CURRENT PRICES OF METALS.

LONDON, AUGUST 25, 1848.

	£	s.	£	s.	d.		£	s.	£	s.	d.
IRON—Bar *a*..Wales...*ton*	0	0	—	5	15	0	COPPER—Ord. bottoms ..	0	0	—	0	0
" ..London ..	0	0	—	6	15	0	YELLOW METAL SHEATHING	0	0	—	0	0
Nail rods "	0	0	—	7	15	0	TIN—Com. blocks *g*...*cwt.*	0	0	—	3	15
Hoop(Staf.) "	8	12	6	8	15	0	" bars	0	0	—	3	16
Sheet " "	9	10	—	9	15	0	ditto	0	0	—	3	19
Bars " "	0	0	—	8	10	0	Refined	0	0	—	3	19
Welsh cold-blast foundry pig ..	4	0	—	4	5	0	Straits *h*	0	0	—	3	14
Scotch pig *e*, Clyde	0	0	—	2	5	0	Banca	0	0	—	4	0
Rails, average	0	0	—	6	0	0	TIN-PLATES—Ch., IC *i*, *box*	1	8	—	1	10
Chairs	0	0	—	4	0	0	" IX ...	1	14	—	1	16
Russian, COND *c*...	0	0	—	16	10	0	Coke, IC	1	5	6	1	6
" PSI	0	0	—	—			" IX	1	11	6	1	12
" Gourieff	0	0	—	—			LEAD—Sheet *k* .....*ton*	0	0	—	17	0
" Archangel	0	0	—	13	0	0	Pig, refined	0	0	—	18	0
Swedish *d*, on the spot	10	15	—	11	0	0	" common	16	0	—	16	10
" Steel, fagt.	0	0	—	15	0	0	" Spanish, in bd.	0	0	—	16	0
" " kegs *e*	0	0	—	13	10	0	Red	0	0	—	18	10
COPPER—Tile *f*	0	0	—	78	10	0	Dry White	0	0	—	23	0
Tough cake	0	0	—	79	10	0	Shot (Patent)	0	0	—	19	10
Best selected	0	0	—	82	10	0	SPELTER—(Cake) *l* on spot	14	15	—	15	0
Ordin. sheets, *lb*...	0	0	—	0	0	9	" for arrival	0	0	—	—	
							ZINC—(Sheet) *m* export.	21	0	—	22	0
							QUICKSILVER *n* .....*lb.*	0	0	—	0	3

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto in bond. *e* In kegs ½ and ¼-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent.

REMARKS.—The transactions in all kinds of metals have been very limited this week, but, except spelter and bar-iron in Wales, which are rather lower, prices remain as quoted in last No. of the *Mining Journal*.

GLASGOW PIG-IRON TRADE, AUGUST 24.—There is the same indisposition to do business this week as there was last, because the same causes are at work. The price of mixed Nos. may be quoted nominally at 44*s.* 6*d.* to 45*s.*, for cash.

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL,

FOR THE FIRST SEVEN MONTHS OF 1847 AND 1848.

Metals.	1847.		1848.		*In. in* 1848.	*Dec. in* 1848
Spelter	*Tons*	1578	2081		503	—
Copper		2401	2238		—	163
Iron, British		6281	13574		7291	—
Ditto, foreign		534	165		—	369
Tin-plates	*Boxes*	5994	2896		—	3098
Lead	*Tons*	620	406		—	114
Steel		454	109		—	345
Quicksilver	*Bottles*	—	15		15	—

LEAD ORES.

Sold at Holywell on the 24th August, 1848.

Mines.	*Tons.*	*Price.*	*Lead.*	*Silver.*	*Purchasers.*
Pen-yr-henblas	50	£9 3 0	7-14ths	8 oz.	Walker, Parker, & Co.
ditto	48	9 3 6	7-14ths	8 oz.	J. P. Eyton.
Jamaica	80	9 0 0	7-16ths	0 oz.	Walker, Parker, & Co.
Belgrave	35	9 0 0	—	—	ditto
Barristown	25	10 3 0	7-10ths	13 oz.	J. P. Eyton.
Rhiwerth	17	9 9 0	—	—	Walker, Parker, & Co.
Sardinia	10	9 16 6	7-8ths	10½ oz.	ditto
Total Tons					265.

Sold at the Mine, 18th August.

Mines.	*Tons.*	*Price.*	*Purchasers.*
East Wheal Rose	76	£10 15 6	B. Somers.
ditto	71	10 0 6	Tamar Smelting Co.
ditto	58	10 14 0	ditto
Total tons			205.

Sold at Aberystwith, 21st August.

Goginnan	37	£13 0 0	Walker, Parker, & Co.
ditto	63	13 0 0	ditto
Fron-goch	80	8 15 0	Newton, Keates, & Co.
Total tons			180.

Sold at Liskeard, 21st August.

Wheal Trelawny	93	£14 15 6	B. Somers.
Herodsfoot	70	10 16 0	Walker, Parker, & Co.
Total tons			163.

COPPER ORES.

Sampled August 9, and Sold at Andrew's Hotel, Redruth, Aug. 24, 1848.

Mines.	*Tons.*	*Price*	*Mines.*	*Tons.*	*Price.*
United Mines	133	£3 4 6	Par Consols	81	£7 11 0
ditto	112	2 4 0	South Caradon ...	85	6 15 6
ditto	105	3 12 6	ditto	64	7 0 6
ditto	104	2 13 6	ditto	54	4 0 0
ditto	103	2 12 0	ditto	19	4 4 6
ditto	94	3 15 6	Wh. Comfort	64	1 6 6
ditto	88	2 14 6	ditto	55	3 11 6
ditto	79	2 12 6	ditto	44	2 4 0
ditto	78	4 0 6	ditto	43	1 19 0
ditto	76	2 9 0	Tresavean.	80	4 1 6
ditto	59	5 1 0	ditto	64	2 7 6
ditto	54	2 13 0	West Wh. Jewel .

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY .....Windsor, Staines, and South-Western Railway—Vauxhall Station, One.
Cornwall Railway—Town Hall, Truro, at Twelve.
MONDAY.....Real Del Monte Mining Company—offices.
National Brazilian Mining Association—London Tavern, Twelve for One.
Thames Haven Dock and Railway—Guildhall Coffee-house, at One.
Banwen Iron Company - offices, at One.
Newry and Enniskillen Railway—offices.
Paris and Lyons Railway—London Tavern, at Twelve for One.
TUESDAY.....General Steam Navigation Company—offices, at Two.
Londonderry and Enniskillen Railway—offices, at Twelve.
Whitehaven and Furness Junction Railway—offices, at Two.
Newport, Abergavenny, and Hereford Railway—London Tavern, Twelve.
Charing-cross Bridge Company—offices, at One,
WEDNESDAY...Londonderry and Coleraine Railway—offices, at Twelve.
Waterford, Wexford, Wicklow, and Dublin Railway—offices, at One.
Birmingham, Wolverhampton, and Dudley Railway—Dee's Royal Hotel, Birmingham, at Twelve.
East Anglian Railway—London Tavern, at Two.
Killarney and Valentia Railway—offices, at One.
East Indian Railway—London Tavern, at One.
THURSDAY.....Irish Waste Land Company—offices, at One.
Taw Vale Railway and Dock Company—London Tavern, at Twelve.
Newmarket Railway—London Tavern, at One.
North Wales Railway—Guildhall Coffee-house, at One.
Sligo and Shannon Railway—Winchester-house, at One.
Droitwich Patent Salt Company—King's Head Tavern, Poultry, Two.

NOTICES TO CORRESPONDENTS.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

"Oceanis."—Messrs. Taylor, of Dover-road, Southwark, have not yet made any progress in the actual manufacture of their patent cork-fibre floating beds and hammocks. They have experienced immense difficulties in perfecting machinery for cutting the cork into thin sheets, and afterwards into fibres; and the inventive talents of seven or eight practical engineers have been called into requisition. We are informed, that a successful machine has at length been hit upon, and Messrs. Taylor expect it will commence working in a fortnight or three weeks.

DEAN FOREST—*Errata*.—In compressing Mr. Robert Mushet's letters of last week, we inadvertently altered the meaning of one portion. Mr. Mushet intended it to read thus:—"One of the legatees deemed it prudent to claim the protection of the Court of Chancery against the executors. Shortly after this, the acting executor dismissed me from my office, without consulting the legatee."

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, AUGUST 26, 1848.

It will, doubtless, be in the recollection of our readers that, some weeks since, we adverted to certain proceedings in the Court of Aldermen, touching upon the penalties said to have been incurred by a party acting as mine-broker, or commission agent, in the purchase and sale of shares in mines, without having authority, as a sworn broker of the city of London, to execute the functions of such office. We attended the Court on the occasion, when the case was simply stated, not argued, nor was there any conclusion arrived at—the Court of civic wisdom having wisely resolved to consider the subject. Up to the present moment we are not aware that any decision has been arrived at, and, consequently, no penalty imposed; while we can well imagine that, if the city solicitor, the common pleader, counsel, and host of civic legal functionaries, should be of opinion that they cannot enforce the penalty, then it is wise in them to be quiet, and not further to agitate the question. It is, however, only due to the Court of Aldermen to state, that the proceedings taken were not instituted by the civic authorities, except on the application and complaint of an individual, when they were bound to institute an inquiry. Such having taken place, we must say, that we think it is only due to the party against whom the charge was made, as also to the community at large, that the question should be definitively settled, inasmuch that it would be unjust to saddle parties with a penalty who are kept in ignorance of the state of the law, or customs, as applied to the city of London; while, on the other hand, if that operation can be carried out by parties who possess no claim to civic rights, or privileges, then such should be clearly understood, so as to render unnecessary the payment of fees, and the security required being furnished.

A case has been cited, bearing on the question at issue, which, if we recollect aright, was that of GIBBONS *v.* RULE, 4 BING, showing that the statute of 6th ANNE, which is the authority cited, as imposing penalties on parties acting as brokers within the City, not having been duly sworn, applies only to persons then known to the law of the country, as such referred to in different statutes, and described by the law writers, or authorities, of the day; and hence, as no such class of persons as mining brokers were then known, it was contended no penalty could attach to the acts of a party not contemplated by the Act in question, more particularly as their dealings are in landed interest, and not connected with goods, wares, and merchandise. We must confess we do not see the matter exactly in this light; there can, we think, be no question, that ores come under one or other of the denomination of "goods, wares, or merchandise"—a question, however, we leave open to the discussion of those more learned in the law than ourselves—the main object we have in view being to direct attention to the subject, in the hope, that if they be not liable to the "pains and penalties," to which they would be subjected under the civic laws, that some other security should be afforded to the public, so as to ensure honest and straightforward dealing; and that the transactions in mining shares, as in all matters which affect sworn brokers, should be duly registered, and that the double part of principal and agent should not be practised, as has been too frequently the case, to the prejudice of the too confiding adventurer and capitalist. It may be observed, that a distinction is said to exist between shares in mines and railways, as by the 8th VIC., c. 16, railway shares are declared to be personal estate. This would naturally raise the question, whether brokers, or dealers, in railway shares would be liable to the penalties, and in such case, then, whether they alone? The subject will, we trust, be taken up by some of our correspondents, for we feel it too important to be passed by unnoticed, more especially as it may be an important point raised, during the next term, in our courts of law.

We have elsewhere recorded the result of the coroner's inquest on the sufferers by the explosion at East Moreton Colliery, Durham, by which no less than 15 unfortunate colliers have lost their lives, and their families left to endure all the miseries of poverty and distress, consequent upon their bereavement. There is, however, one consolation attending this unfortunate catastrophe, which, in the majority of these deplorable accidents, cannot be availed of—viz.: that in declaring a verdict of "Accidental Death;" the jury were perfectly correct; for, according to the evidence carefully sifted and examined, no blame could attach to any one. The circumstances connected with this colliery, and the explosion, are peculiar and extraordinary—it has been as yet opened to a very inconsiderable extent, there are no goafs, or falls of roof, by which reservoirs for the accumulation of gas would be formed; in the seam which was being worked, there are a less number of "blowers" than in any other in the county, it being the "Hutton," while those most remarkable for blowers are the "Bensham" and "Harvey." From the enormous size of the shafts, two downcast and one upcast, the latter 16 feet in diameter, admitting through that part of the mine where the explosion took place a current of 12,000 cubic feet of atmospheric air per minute, it was very naturally considered that no accumulation of carburetted hydrogen could harbour long enough to be productive of dangerous consequences. This colliery has also the largest amount of engine-power of any coal mining establishment in the kingdom—1330 horse-power, 630 being usually in active use.

Under these highly favourable circumstances, it was never considered necessary to work with safety-lamps—the levels were continually, to all appearance, as healthy, and as free from foul vapours, as the surface—and hence it was the general rule to work with naked candles. The accident evidently arose from one of those sudden and overwhelming blowers of gas which occasionally make their appearance, and against which no human foresight can, by any possibility, be prepared; and this is clearly proved by the pure state of the mine before the explosion, its suddenness, and the rapidity with which the after-damp, or carbonic acid, was swept away, leaving the workings as clear and pure as before; and this latter circumstance also carries with it a conviction of the thorough efficiency of the ventilating powers of the shafts. We have too often on these melancholy occasions had to allude to the recklessness of the men, or felt it our duty to deprecate the carelessness, or cupidity, of the owners, in not taking proper precautions for the safety of the lives of their colliers. On the present occasion, however we must deplore the calamity, we have no such unpleasant task to perform; and it is but justice to the proprietors to say that, from every tittle of the evidence, it was strikingly apparent that every possible precaution which science could suggest, and art carry into effect, had been attended to; and that the most unlimited confidence appears to exist in the proprietors and managers on the part of the men.

The advertisement which appeared in our advertising columns of last week, announcing the formation of a new smelting company, upon the principle, and with a direct view, of doing justice to the great mining interests of the kingdom—both operative and proprietory—if not a phenomenon in its way, is, at least, a very remarkable novelty. The smelters, as all the world knows, have, for a long course of years, had it all their own way; they have so tampered with the standard, and ruled the price of ores brought to their furnaces for reduction, that scores of thousands of pounds, which should have enriched the purses of the adventurers, and have satisfied the wants and the just claims of the miners, as a working community, have fallen into their hands, which, by an equitable course of business, neither ought nor could have reached them. To every man, therefore, interested in mining, whether proprietor or labourer, the advent of this company is full of cheering hope, and of advantageous promise. The company pledges itself to confine its operations to that process for which it is ostensibly founded—namely, to smelting the ores brought to them for that purpose: there can be no real necessity that ore refiners should also be ore merchants; and the formation of this company will, we trust, inflict a severe blow on that injurious combination. Out of the establishment and success of this company there will arise, we have every reason to believe, an improved scale of remuneration to the adventurers and to the body of operative miners—because those heavy sums, which all monopolies unjustly absorb, and which the smelting companies have for a long course of years been drawing into their insatiable vortex, will, under the new order of things—which we confidently expect to see realised—come down upon both lords and labourers as a refreshing and a fertilising dew.

We have no objection to make against the smelting companies on account of their having grown rich—they are perfectly welcome to their wealth, if they have won it fairly; but if, as is too plainly the case, with their great capital they have nearly choked the lesser capital of the adventurers—if they habitually influence the state of the market to their own convenience, and uniformly to the disadvantage of those who bring their raw produce for smelting and for sale, then we do object to that large scale of profits which they have injuriously and unjustly set up for their own separate emolument. It is for these, and for other, reasons that we desire to call the attention of our mining friends at large to the advertisement of the last and of the preceding week, announcing the formation of a new BRITISH SMELTING ASSOCIATION—being satisfied that its establishment, on the principles proposed, will be highly beneficial both to the proprietory and the operative mining interests of Great Britain.

In the "Original Correspondence" of last week contained in this Journal, there were some highly important remarks on the smelting of copper ore, which at this moment are entitled to particular notice and examination. It is said, that by the present treatment of copper ores by the smelters, for every ton of pure copper produced, there is a loss of 1½ ton of iron and 2 tons of sulphur, together of the value of 20*l.*; and that, taking the aggregate quantity of pure copper produced in this country during the last 48 years, at 100,000 tons, the aggregate loss in that period by mere inexpertness of manipulation, would amount to 20,000,000*l.* sterling. Of course we consider this an exceedingly strong subject, and, if true, that it reflects very heavily on the parties conducting this species of business amongst us. We suppose that a case equalling it for wastefulness and ignorance combined, cannot be raked up within the four corners of the United Kingdom. We think, however, that of necessity there must be some error in this statement, for, notwithstanding their inaptitude for managing this, which is now an every-day process, and the enormous waste which the statement charges on the smelting companies, still they are said to be masters of their particular art, that with them knowledge is power, and that they have succeeded so well, not because they were originally rich, or that their works are favourably situated; but, because they well and thoroughly understood their particular branch of business.

The overture, however, and the last passages of this short opera, are in no sort of keeping. We might have believed in the skill and ability of the smelters as smelters, if we had not been told, as in this case we are, that within less than the last half century they have directly and positively wasted a mass of good materials—a flood of ferro-sulphurets, of the value of 20,000,000*l.* sterling. We are willing to take it in any way that may best suit our respected correspondent—either that the smelters are a class of foolish men, who have managed their processes most uneconomically, or that they are a set of clever men, and there has been no 20,000,000*l.* loss by their mismanagement. Either of these statements would be perfectly consistent; but to suppose that the smelters are men of ability in their particular business, and yet in that business have been, through ignorance, flinging away fortunes, enough to have enriched a nation—to believe this, we say, is really more than we are able to do. It would appear, at all events, that the smelters' account-book is kept with a very large margin for profit and loss. If they can waste 20,000,000*l.* in little more than 48 years, and yet grow rich, how much richer would they have grown had they been less extravagant? We hope the letter of our correspondent, and these few lights arising out of it, will not be without their use to a new company, whose purposes are now before the bar of public opinion.

In the early part of the year 1846, the proceedings of the NATIONAL BRAZILIAN MINING ASSOCIATION became exceedingly interesting to the mining public, from the discovery of an auriferous vein of jacotinga, which was known to exist, but which the levels had, for 11 years, been running parallel to, without intersecting it; and from the circumstance that many shareholders, who had refused to join in an advance of additional capital necessary for the salvation of the property, immediately put in their claim for a full participation in any profits which might arise from the mines. The proceedings are, at this moment, rendered equally interesting, from the conduct of a gentleman—who, about that important period, was introduced to the direction, under the conviction that, from his position and connections, he would render considerable service to the association—taking upon himself, without consulting his colleagues, to start off to Brazil, making what he terms a "thorough investigation," upsetting the regular and proper working of the mines, and introducing a system of his own, totally at variance with the best interests of the association. We have, on former occasions, given ample reports of the two last meetings at which Mr. COLLETT presided—at the latter of which a committee of inquiry was appointed to investigate the position of the affairs of the association; and, in another column, will be found a full report of the proceedings of a meeting of shareholders, held on Monday last, for the purpose of receiving the report of this committee.

We have no wish to impute motives, other than correct, to any man; but it is quite clear, that the precious scheme of Mr. COLLETT, by which he sought to arrogate to himself the entire management of the Brazilian property, without the control of a London directory, which he would scatter to the winds, to sell the gold at Rio Janeiro, and, perfectly without check, remit bills on London, when convenient, for the payment of *dividends* (?), was anything but relished by the shareholders.

Notwithstanding the dishonourable conduct of parties who held no shares, and others who had not paid up, voting at the meeting, the votes in that report are conclusive, that the majority consider that even Messrs. OXENFORD and HAMILTON, in whom experience has proved the most implicit confidence may be placed, for that continued exertion for the best interests of the association which has thus far distinguished them, should be associated with two or three other colleagues in the direction; how much less, then, is it likely such a system as Mr. COLLETT's should, for a moment, be considered with any favour? We think the shareholders are perfectly in the right—the management of any large public undertaking ought never to be in the hands of less than five directors; and we have no doubt, that the two gentlemen in whose names, as trustees, the Brazilian property stands, are of the same opinion—indeed, they have, in the most unqualified manner, expressed as much. There are at present, however, peculiar circumstances affecting this arrangement; in a minority with their present colleagues—for it is evident Messrs. REID and IRVING support Mr. COLLETT—it can hardly be expected Messrs. OXENFORD and HAMILTON can act in concert with them; and, however desirable such an infusion might be, it does not appear that three gentlemen can be found among the proprietary who are willing to take up their share of the advances and responsibility at present borne by the two latter gentlemen. Under these circumstances, we think, at the adjourned meeting, on Monday next, it would be wise to pass the resolution on which the last meeting divided, appointing them sole directors and trustees—more particularly as it is only "until the shareholders deem it proper to make any alteration." This will enable them to act unfettered, and with vigour, for the best interests of the association; and as it is clear the produce is gradually on the increase, while the expenses are diminishing, and the mines already working to a profit, it is more than probable, that at the proposed annual meeting, in May next, the association will be placed in a highly improved condition, and the shareholders be in a position to appoint five directors, of their own immediate choice. One thing is certain—with a divided direction, the business of the association can never be prosecuted to a successful issue; while, by allowing the management to proceed as before, and which has, during the past few months, led to such gratifying results, a foundation will be laid for a prosperous future, freeing the directors from their present liabilities, and securing to the shareholders some return for their long dormant capital.

MINING IN FRANCE.—By the last reports from the mining districts, there is a little more animation than for the last few weeks, particularly at the forges of St. Dizier, St. Etienne, Decazeville, the Chatillonais, and the blast-furnaces of the north and Monceaux-sur-Sambre, those of Alais, Allemance, the Dordogne, the Loire and Ardèche, Aubin, &c., which, for the last few months have been nearly all blown out, are beginning to work again. The working of the mines generally is resuming a better appearance, but very much confined, in consequence of the great scarcity of money on the part of the iron-masters—so that the trade may be said to be chiefly confined to those capitalists who are able to obtain the proffered assistance from the Bank of France, on good security. The great injury which has happened to France, during the last few years, has been the reckless speculation in railways, by which thousands, who were once in pretty good circumstances, are now ruined—which, added to the falling off in the traffic, and the revolution of February, the crisis will be some time before it can be recovered from, by every branch of industry, as it has shaken commercial enterprise to the centre. In the manufacturing districts confidence is assuming a more cheerful aspect, particularly at Rouen, St. Quentin, Lyons, &c., which will most beneficially affect mining; for if the one is depressed, the other is sure to feel its portion of such depression, although speculation in this country is not carried to the extent as in England. The Government appears determined to carry their project of working several of the railways, particularly that from Paris to Lyons, which is the grand trunk line to Marseilles and the south, and, in all probability, would have been a long time before completed. The measure may appear arbitrary to many who are unacquainted with the manner railway speculation has been carried on in France—or at least allowed to be so by the late Government of Louis Philippe (who had no little interest in the affair)—and the support given to the iron and forgemasters, by enforcing the almost prohibitory import laws on British, and other foreign iron, machinery, &c., to serve these monopolists, who, having it all their own way, exacted most exorbitant prices for rails, chairs, locomotives, &c., from the companies, and even did not fulfil their contracts with honour at the specified periods. When the sudden change in the State took place in February, nearly the whole of the railways were found in a state of insolvency. It is this depression that the conventional Government wishes to relieve, as not only more beneficial to the companies themselves, but the public at large—as the lines will be completed, work will be given to thousands out of employment, and a great call will be made for iron, machinery, and coal, whether it be entirely the produce of the country, or a large portion foreign, at a protective duty, it will be either way advantageous to the mining and national industry of the republic.

MINING IN BELGIUM.—Several orders have been received at the foundry of Seraing and others, for rails and railway *materiel*, but chiefly on account of the Government. There is a great depression generally in mining and metallurgic industry, from the great scarcity of ready cash, and this winter is looked forward to with much anxiety, not only by the forgemasters, but all connected with this important branch of national produce and prosperity, as the manufacturers are also nearly at a standstill for want of orders. It is to be feared that affairs will not be more cheering until next spring.

MINING IN CHILI.—This enterprising and rich mineral republic is annually improving, through the judicious administration of the Prime Minister and his colleagues, who not only advance every branch of industry at home, but preserve the most friendly intercourse with the adjacent republics of Peru, Bolivia, Columbia, and Mexico, whilst, at the same time, extending her commerce with the vast Pacific and far distant Europe. We have, on many occasions, alluded to the progress of mining in this part of the globe; and, in all probability, before many years, it will be one of the most flourishing of the south-western hemisphere. By the last accounts, the Minister had visited all the mining districts, and had obtained a most detailed and interesting report of the metallurgic resources of those localities, so as to enable the Government to carry out its vast plan of improving and encouraging that important branch of national wealth and industry, by cutting good roads, establishing railways, and affording those facilities for the conveyance of the ores to Valparaiso, and other places convenient for smelting or shipping to Europe and the United States. A great reform is being made in the fiscal administration relative to mines and ores, so as to abolish the present duties, and render them merely nominal on the export of metals, and auriferous and argentiferous ores, which duties have hitherto been so heavy upon the miner. The next year is expected to be an important one in the annals of the republic, and the development of her commerce with other nations.

CONTRACT FOR COALS FOR HOLYHEAD.—The Commissioners of the Admiralty have given notice that, on Thursday, the 7th Sept. next, they will be ready to treat for the supply and delivery, at Holyhead, of 3000 tons of coal, for the service of her Majesty's mail steam-packets, to be delivered in equal monthly proportions by the 30th of April, 1849. A very large portion of Welsh coal, or anthracite, is now employed by the mail packets on this station, and, indeed, by her Majesty's steam navy in general, which causes a great saving in fuel, and much less wear of the fire-box and tubes. The Government will soon be laying in their winter stock of coals, of which due notice will be given, that the contracts may be issued for by the Admiralty board.—The contract on Wednesday next, by the East India Company, for the supply of 1000 tons of Hartley coal, &c., at Madras, is likely to be warmly competed for, as that on the 9th inst., for 3000 tons at Aden, was. We have repeatedly stated, there ought to be a more fair competition allowed to all parties, in tendering for contracts, whether to Government or the East Indian Company, for the development of our mining industry, without monopoly or official partiality.

THE GOLD AND TIN MINES OF MALACCA.

BY J. B. WESTERHOUT, ESQ.

The Malayan Peninsula may generally be described as a region mountainous and hilly, with very extensive planes or valleys; the aspect altogether is very picturesque. The greater part of the interior is covered with extensive forests, containing fruit trees, and in which savage animals roam; but they are peopled and cultivated here and there; the largest mountain is Gunong Ledang, or Mount Ophir, which is about 5600 feet above the level of the sea. There are also two large rivers, the Muár and the Lingey; the latter is about 480 yards broad, and navigable for vessels of about 200 tons burthen.

GOLD.—The mineral productions of Malacca are principally gold and tin. The gold mines of Ophir were worked till the year 1817 by the Malays. About that time from 20 to 30 Chinese also commenced working, and have increased from time to time, so that the average number at present employed there is about 250 men. Eight Klings from the Coast of Coromandel have gone up this year; the gold is of 9 touch; the mines are at the foot of the mountain, and their general depth is from 70 to 200 feet. The Malay process of gathering the gold dust is very simple. They dig till they come to the rock, then break and pound it, carry it to a stream, and wash off the gold dust. The miners have to pay a duty to Inchi Ahat, the uncle of the present Tamungong of Muár, Toonku Sahid. The gold gathered is 24 catties annually; which is all brought to Malacca. The gold mines at Gámunchí were accidentally discovered about 80 years ago, by Panghulu Topay, who picked up a stone that was lying on the ground, and breaking it, found that it contained gold. The Malays then commenced working, and found a small quantity. After which the Panghulu died, and his son Lasai succeeded. During his time he got people to go up from Malacca, among whom was a man named Háji Amát, who went up with 200 Malays about the year 1807, and worked the mines till the year 1824, when he left them, and Seugkong went up in his stead. He left off working on account of the Naning war, after which it was worked again from 1833 to 1840, by Amát bin Ludane. After his death they were often attacked by the Malay Rájás, on which they deserted the place; but since the year 1844 the Panghulu of Johore, having promised to protect them, encouraged their commencing again; still there are very few at present. There are seven hills where gold is found—Gámunchí, Chindras, Tabong, Ládáng, Ayer Kuning, and two others. In Háji Amat's time they brought from 40 to 50 catties to Malacca annually. The distance from town is about 40 miles, and there is a good boggy road as far as the 19th mile. The present population under Panghulu Mah Japar, consists of about 200 men.

TIN.—The working of the mines at first was trifling, principally from the want of capital, but lately they have been very successful; the first tin mine that was worked was at Titian Akar, about 11 miles from town, by a Chinaman, in the year 1793; and in 1807 Dool Syed opened one at Lendeck, in Naning. In 1833 I opened several tin mines at Pandoy, Tungnay Bulu, and Lendeck, in Naning, till 1835, when I left off working. In 1840 I assisted a Chinaman, who opened one at Durian Tungal. He made a great profit, and was followed by many other of his countrymen. The principal mine here, I mean in the company's territory, is at Cassang, at present worked by about 2200 Chinese, which was lately discovered. The quantity of tin brought to town from this mine is from 300 to 350 piculs monthly, which is readily sold at the rate of $16 per picul. More mines have been discovered towards Naning, Gapum, and Duyong, during this month, where they have commenced working, and I think there is no doubt they will become equally rich and valuable when largely worked. There are about 1200 men working in the other mines, at Durian Tungal, Naning, and Ayer Pánás. These mines are all divided into kongsees, or companies, each under its respective Towkay. They have each a share in the produce. The quantity of tin exported from Malacca yearly is 16,277 piculs, of which 4277 piculs is from the company's territory, 7000 from Sungei Ujong, and 500 from Lukut. There are 4600 miners at Lukut and Sungei Ujong, and 3400 in the company's territory. The mines are generally excavated in the swampy flats at the base of hills, from 6 to 20 ft. deep, following the streams of ore, which will run to the distance of two or three miles. These excavations are called by the natives "limbongan." The excavations made by the Malays are inferior to those dug by the Chinese, as they are too lazy to work the layers which lie deep.

SHIP TIMBER SAWING—INFRINGEMENT OF PATENT.

The case, Hamilton *v.* Cochrane, was tried at the Guildford assizes, before the Lord Chief Baron, and a special jury.—Mr. Serjeant CHANNEL, who appeared for the plaintiff, said, he was a native of the United States, residing near New York. Having devoted his attention to the improvement of the mode by which timber for shipbuilding purposes could be at once cut to the required shape, he succeeded in constructing a sawing-machine, by which timber could be cut with the required bends and angles, avoiding the extra time and waste attending the old process of sawing square, and then adzing to the required shape. He took out a patent for America, and forwarded the necessary documents and drawings to an agent in England, to take out a patent here. He also took out one for France; but, as the patent laws there require that the invention should be put in practice in a given time, large works were erected at Toulon; here the defendant had seen the works, and wished to join his interest with the plaintiff, which, however, appears to have been declined. In Oct., 1846, the defendant represented himself as the inventor of a new sawing machine for ship timber, and the subject being brought under the consideration of the Admiralty, the defendant received instructions to erect one in Woolwich dockyard. The specification, letters patent, and drawings, were then put in evidence, and a most voluminous mass of evidence was gone into.—Mr. CHAMBERS, at considerable length for the defendant, contended that the principle of the plaintiff's machine was not a novelty, and that defendant's mode of working was a decided improvement on that of the plaintiff; that it possessed a greater degree of public utility, and combined simplicity with perfect management.—The CHIEF BARON summed up, and the jury returned a verdict for the plaintiff, with nominal damages, 40s.

LITERARY NOTICES.

A Practical Treatise on the Construction and Formation of Railways, containing the most approved Systems of Excavating, Haulage, Embanking, Permanent Waylaying, &c.; illustrated with Diagrams and original Useful Tables; to which is added, Comprehensive Earthwork Tables. By JAMES DAY. London: Simpkin, Marshall, and Co.; and John Weale, 59, High Holborn.

The object of this useful little railway-engineering hand-book, which is very appropriately dedicated to Joseph Locke and J. E. Errington, Esqs., the railway engineers, is, as expressed in the preface, "to give a practical exposition of that now popular and all-important subject, railways—a medium of internal communication which has been brought so rapidly forward to its present comparative state of perfection by the united efforts of the British nation." The chapters, or divisions, of the work are judiciously arranged; commencing with the primeval state of society, when man, having few connections beyond his own hut, required no roads for the conveyance of merchandise, he proceeds to the formation of the first canals—particularly those gigantic works by the Indians, Egyptians, and Romans. In coming to the more practical portion of the work, we find the directions expressed in easy language, which the merest tyro can at once comprehend: the calculations are explicitly laid down, and, in difficult operations, actual cases in point are given, and carefully explained; diagrams are inserted, where required, for illustration, and the tables are of a character to be really useful, and greatly facilitate the every day labours of the railway engineer. Mr. Day is the author of the *Railway Calculator, or Engineers' and Contractors' Assistant;* and we doubt not, both works, which are closely connected, will be duly appreciated by the engineering public. They should be placed in the hands of every pupil.

Topham's Railway Guide. Dedicated to G. Hudson, Esq., M.P. Derby: Richardson & Son.

With the rapid progress of the railway system, and the frequent changes in the time of starting and arrival of trains, a correct series of time-tables has become a voluminous affair; and, to insure continuous accuracy, it has long been found absolutely necessary to publish them monthly. Hitherto, however, the numerous columns and clusters of figures confuse the eye, and render it exceedingly difficult to be perfectly satisfied that they are read off correctly. To obviate this difficulty, the above work has been compiled, and secured under letters patent—the Number for August being the third of the series. The peculiarity in this publication, is the mode of distinguishing down trains from up—the down trains being read in *black* downwards, and the up trains in *red* upwards. As a general rule, all trains running *towards* London are up trains, and are printed *red*, and all those running *from* London are down trains, and are printed *black*. By this arrangement the eye is greatly relieved, and any column may be distinguished with the greatest facility, and read off at sight. This collection of time-tables is got up with the utmost care, and in a very superior manner—the type beautifully clear and distinct; and the volume will be fully appreciated as a boon by all persons who are in the habit of travelling much by railway.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Aug. 19, was 16,334; amount of money, £68 1s. 2d.

CHRONOMETRIC GOVERNOR FOR STEAM-ENGINES.

Among the difficulties which inventors and engineers have had to contend with in the construction of the steam-engine, perhaps those connected with regulators, or governors, to secure uniformity of motion, have been the greatest. Watt's, and other centrifugal governors, have been hitherto almost universally adopted; but they possess very apparent defects—the principal one of which is, that they do not regulate, only moderate the velocity. Mr. Woods, of Bucklersbury, C.E., is the patentee of a new governor—the invention of Messrs. E. W. and C. W. Siemens. It consists—first, of an endless screw, driven by the engine at its uncertain velocity, and allowed to move longitudinally in its bearings; secondly, this screw is in gear with a horizontal pinion, which revolves with a perfectly uniform and constant velocity, in a contrary direction to that in which the screw has a tendency to move longitudinally. The uniform motion of the pinion is obtained by a revolving pendulum, driven by a constant power, independent of the velocity of the engine; and, unless the engine turns the endless screw with precisely such velocity as to equal that of the pinion, its slightest variation will cause a longitudinal motion of the screw, and thereby at once alter the position of the valve, and adjust the supply of steam. This constant power, by which the pendulum is driven, is obtained from a constant weight, lifted by the engine, instead of being driven directly by the engine itself. This motion may be assimilated to a fast and loose pulley on a shaft, having an endless belt over them, with a heavy weight, sustained by the belt falling over one side of the large pulley, and a lighter one to keep it stretched on the other portion; if the shaft, with the fixed pulley, is then driven, it would lift one-half the heavy weight; and the other half supported by the belt, falling from the loose pulley, would be employed in drawing it round with a constant effort. A precisely similar effect is produced in the arrangement of the chronometric governor by a weighted lever—half of which is lifted by the engine, and the other half is employed in turning round a bevil wheel, attached to the slide crank, in which the point of the pendulum-rod oscillates; the resistance of the atmosphere, and friction of the instrument, is, therefore, counteracted by a constant driving power; and the revolving pendulum makes the same number of revolutions per minute as an oscillating pendulum of equal length will make double vibrations. The bevil wheel attached to the pendulum partakes, therefore, of its uniform velocity; and, if the engine by change of load has any tendency to alter its speed, the differential wheel between that which is driven by the engine, and the other which is attached to the pendulum, immediately moves forward with the one which travels fastest, effects the adjustment of the valve, and, having equalised the supply of power to the altered conditions of the load, enables it to be overcome without further alterations of speed, and, therefore, of differential motion; and the valve continues in this adjusted position until the load varies again. Two bevil wheels, with a differential wheel between, are now used as superior to the endless screw. Such is the extreme sensitiveness of this governor, that the mere variation, caused by the unequal communication of power to the crank, during one revolution, causes the endless screw to affect the valve; and it is in consequence of such delicacy, that half the load of an engine can be suddenly thrown off, without increasing the momentum of the fly-wheel, which, were there a moment's hesitation, would take place.

We have, during the week, carefully inspected one of these chronometric governors in operation at the engineering establishment of Messrs. Woods and Co., in the Dover-road, Southwark, and were much gratified with its surprising sensitiveness, the instantaneous manner in which it answered the slightest increased speed of the engine, and its peculiarly easy and frictionless motion in the ball and socket joint. A first inspection, convinces that it possesses great advantages over the centrifugal regulator; and the testimonials which Messrs. Woods have received from such names as Fairbairn, Whitworth, Bright, and a host of first-rate engineers and manufacturers, prove its vast superiority.

HYDRAULIC PRESSURE ENGINE.

Mr. J. Glyn read a paper on this subject at the British Association, in which he called the attention of the members to a mode of employing the power of waterfalls in a most useful and important manner—too long neglected in this country, considering the advantages it affords in hilly districts for the drainage of mines. He brought under their notice the means of employing high falls of water to produce a reciprocating motion by means of a pressure engine. The pressure engine acted by the power of a descending column of water upon the piston of a cylinder to give motion to pumps for raising water to a different level, or to produce a reciprocating motion for other purposes. The pressure engine was calculated to give great mechanical effect in cases where waterfalls may be found of much too great a height, and too small a quantity, to be practically brought to bear in a sufficient degree on waterwheels within the ordinary limits of diameter. The author produced instances of the desired pressure engine, one of which was constructed about 40 years ago in Derbyshire; and which, he believed, was still at work in the Alport Mines, to which it was removed from its original situation. The cylinder was, he believed, 30 in. in diameter. In 1841, Mr. J. Taylor advised the application of another and more powerful engine at the Alport Mines, which was made under his (Mr. Glyn's) direction, at the Batterby Iron-Works, in Derbyshire. This was the most powerful engine that had been made. The cylinder was 50 inches in diameter, and the stroke 10 ft. It was worked by a column of water of 132 ft. in height, so that the proportion of power to act on it was as the area of a piston to that of the plunger—namely, 1963 to 1385, or fully 70 per cent. The superintendent of the machinery assured him that the engine had never cost them 12*l.* a year since it was erected. Its usual speed was about five strokes per minute; but it was capable of working at seven strokes per minute, without any concussion in the descending column, the duty actually done being equal to 163-horse power:—Area of plunge, 9·621 ft. × 10 ft. × 7 strokes = 673·41. $673{\cdot}41 \times 62{\cdot}5 \times 132 = \frac{5555382{\cdot}5}{33000} =$ 163-horse power. The author concluded by remarking that, in this case as in all others when water acts by its gravity or pressure, those machines do the best work when the water enters the machine without shock or impulse, and quits it without velocity. They thereby obtain all the available power that the water will yield with the least loss of effect; and this result is best accomplished by making the pipes and passages of sufficient and ample size to prevent acceleration of the hydrostatic column.

IRON MANUFACTURE IN FIFESHIRE.—Two blast furnaces have recently been erected at Lochgelly by Messrs. John Henderson and Co. The start was a successful one—the first cast producing No. 1 and 2 iron, and each cast since has produced No. 1 iron, we are informed, of the very best quality. These being the first iron furnaces in that neighbourhood, we have made some inquiry into the nature and extent of the mineral field there. The coal-field has been long worked, and is rather famed for its fine hard splint coal, as well as cannel coal for gas works—the oval seams vary from 3½ to 14 feet in thickness. Blackband ironstone, similar to the Airdrie stone, was discovered some years ago by Mr. Henderson, the managing partner, and found to extend over no less than 2000 acres of the company's field. The stone appeared rich and good, and the seam varies from 2 to 8 ft. in thickness. Besides the blackband, two rich clayband seams overlie two coal seams, and the stone falls on the coal being worked. It is thus very easily got at, and the admixture of the blackband and the clayband stone will improve and strengthen the quality of the iron. The splint coal being hard, and free of sulphur, is well adapted for smelting iron.

EAST OF SCOTLAND MALLEABLE IRON-WORKS.—These works which, in addition to their advantageous position in a commercial point of view, will prove of so much benefit to the town of Dunfermline, commenced operations on the 2d instant. The public were permitted to be present on the "opening day." The steam having been got up in three large boilers, was admitted to the cylinder of the engine, which is 80-horse power, and the whole started in gallant style; the fly-wheel weighs 27 tons, making 70 revolutions per minute, which with all the other ponderous wheels and machinery, is fitted up as true, and works as smoothly, as a clock. The works are fitted up with rollers, tilt hammers, clippers, and every appurtenance of the most modern, and scientific construction, for the manufacture of malleable iron. Two puddling furnaces were heated up, several blooms were made, and afterwards drawn into bars, for the gratification of the visitors; 12 puddling furnaces are finished, and now in full operation, and from 150 to 200 men and boys will be kept here in constant employment. From the near position of the ore and coal, a good return may be expected for the capital invested.

SOUTH-WESTERN RAILWAY—OPENING OF THE WINDSOR BRANCH.—The branch of this railway to Datchet was opened for public traffic on Tuesday last. Strictly speaking it is an extension of the Richmond branch, which it leaves by a slight curve a short distance from Richmond, crossing the Thames by an iron bridge situate midway between Isleworth and Richmond-bridge, it proceeds through Twickenham Park, to Twickenham, where there is a station, and from thence in a straight line to Staines and Datchet, on the north-west side of Windsor Park. The distance from Waterloo-bridge, about 23 miles, was performed in one hour and a quarter. During the day 15 trains passed either way.

Original Correspondence.

PURE IRON.

SIR,—I believe graphite to be a definite chemical compound of iron and carbon. All graphite, which has come under my observation, has contained iron; and I imagine that graphite can no more exist without iron than limestone without carbonic acid. Many persons hold a different opinion, and Mr. Heath appears to be one of these; but certainly a difference of opinion upon what is considered an obscure point, does not impugn the metallurgical abilities of any individual. Dr. Karsten is, beyond doubt, an eminent metallurgist; yet he has advocated the untenable absurdity, that, as a general rule, white cast-iron contains more carbon than grey cast-iron. This has been ably refuted by my late father, in three letters addressed to the Editor of the *Civil Engineer and Architects' Journal*, in 1840 and 1841; yet all this does not disprove Karsten being an eminent metallurgist. Baron Coleford has never read any description which accurately applies to pure iron; he, therefore, supposes that he alone has had the curiosity to produce some specimens of that description of iron; but, as it is not a matter of difficulty, others may probably have done the same out of curiosity. I have obtained pure iron, by the cementation of pure oxide of iron, in porcelain crucibles, carefully luted, so as merely to admit of the carbonic oxide passing off. The deoxidation was effected by means of pieces of charcoal, placed beneath the oxide, and above it, but not in contact with it. The metallic result was triturated in a steel mortar, and fused in quantities of 1000 grains each, with various proportions of lamp carbon mixed with the pure iron, to form various qualities of iron. The Danemora iron contains, according to the analysis of a very distinguished chemist, 1¼ per cent. of manganese—not 15 per cent.; and I repeat, that it constitutes a defect in that iron, *as iron*. Manganese, as far as I know, confers upon iron a degree of ductility and softness; but this impairs its power to resist an end pull. This constitutes a defect, however slight it may be. When iron is hard and deficient in ductility, manganese improves its quality; but good iron requires no such improvement, and manganese may weaken it. In speaking of iron, I did not allude to steel, which is, in my opinion, a product *apparently* closely allied to bar-iron; but, in reality, differing in many respects, more widely than might be imagined, from bar-iron. I think it probable that a process which would improve steel, might be no improvement, but rather the reverse, if applied to iron. Mr. Heath's process has been known to effect a certain improvement. Why it has done this, I cannot, satisfactorily to myself, explain; nor have I ever heard a satisfactory explanation given of either the cause or the effect involved in this matter. The following analysis of some very superior blistered steel was given by a friend of my late father's:—Iron, 98·187; carbon, ·472; manganese, 1·341 = 100. The specific gravity was 7·641.—R. MUSHET; *Coleford, August* 21.

IRON AND STEEL.

SIR,—It is generally understood, that a homogeneous casting possesses greater strength, for a given sectional area, than a casting of equal section, composed of heterogeneous mixtures of very tough and very brittle materials—therefore, foundry castings are stronger than blast-furnace castings. The makers of china, by whom the fracture of that product is scrutinised to a nicety, must possess microscopic eyes, of no common power—for under a strong magnifying glass, I must confess, I can see nothing in the fracture of fine china except a dense aggregation of white particles, free from any distinguishing characteristic as to their silicious or aluminous nature; but practice effects wonders. Whenever "Ferreus" shall turn his attention to the motions of bodies in resisting media, he will find, that where the specific gravity of a body differs very little from that of the fluid in which it is immersed, it will, since fluids press equally on all sides, ascend in the resisting medium, by the difference of two forces impressed—one force made up of the sum of the upward pressures on each unit of surface, upon the under side of the body, acting at the mean distance of all these units from a horizontal plane, passing through the centre of gravity of the body—the other force being the sum of the pressures downwards, similarly estimated upon all the units of surface upon the upper side of the body, taken collectively. Now, as the body diminishes, the mean distances of the upper and under units of surface, from the horizontal plane, passing through the centre of gravity of the immersed body, will diminish also; and if the magnitude of the body be diminished *sine limite*, the mean distances are diminished *sine limite*, and ultimately coincide with the horizontal plane. Hence, when the body is very small, or, in other words, a *particle*, it will remain at rest, because, though the forces by which it is acted upon, in an upward and downward direction, are not *absolutely* equal, yet their difference is so small, that the moving force, which is equal to this difference, cannot overcome the viscidity, or friction, of the resisting medium. Since the perpendicular projections, of any solid figure, upon two parallel planes, are plane figures, which coincide, in all respects, there will be as many units of surface upon the upper side of the immersed body, or particle, as upon its lower side. Thus, no biform monster can be formed, because, unless the malleable particles are large, they cannot rush to the surface of the viscid molten iron.

When particles are exceedingly small, they may remain suspended, even when their specific gravity is greater, or far less, than that of the medium in which they are immersed. Thus, particles of gold may remain permanently suspended in still water. In fact, this is what I understood by the solution of any substance in a fluid; and it amounts to this, that the water, or other fluid, can only hold in suspension a certain number of particles of any given substance, each particle being of that magnitude, in reference to its specific gravity, and to the viscidity of the fluid, which will determine its state of absolute rest at a given depth. But for physical causes of this kind, we should have biform and triform monsters, too, creeping into chemical solutions.—ROBERT MUSHET: *Coleford, August* 22.

HOT-BLAST.

SIR,—Great credit is due to Mr. Leighton for his application of hot-blast to the manufacture of sulphuric acid. Mr. Schneider's process, will, I think, turn out to be dependent upon Mr. Leighton's. There can be little doubt that, if sulphur be ignited in an iron vessel, through which an instensly heated current of air is passed, sulphurous acid will be rapidly generated. Supposing that a portion of carbon should be added to the charge of sulphur, and a jet of high-pressure steam introduced, what would be the effect produced? I have long entertained the idea of applying hot-blast to the manufacture of copper, direct from the ore, by smelting in cupola furnaces. Such is the desulphurising power of hot-blast, that every particle of sulphur would be dissipated from the ore; and the injurious alloys of zinc, tin, arsenic, antimony, &c., would be volatilised, and driven off likewise. By adding suitable fluxes, the furnace would be made to yield a cinder of iron-glass, and a yield of copper, slightly alloyed with iron, which the refinery would remove. This is the process for the Cornish miners; and half-a-dozen cupolas would melt up more copper ore than half-a-dozen great copper works at present effect. Iron pyrites, ground small, and placed in revolving cylinders, would, at a low heat, when blown upon with hot-blast, at 600° to 800°, pass off plenty of sulphurous acid, and save the cost of sulphur at least. Zinc, if blown upon in a similar manner, might be made to yield its oxide in a state of great purity as to colour for forming a paint.—R. MUSHET: *Coleford, August* 22.

COPPER SHEATHING.

SIR,—From the notices, in your last week's Journal, on my letter, I am again induced to trespass on your valuable space, and trouble you with some remarks. In reply to Mr. Prideaux, regarding the Norwegian ships, they are generally sheathed at Christiansand, which is one of the largest ports in Norway for ship building; and it would not be difficult to obtain a specimen of the copper there used in sheathing, which I shall have no objection, as soon as I put myself in communication with the parties, to forward to your office. This copper, which, as I observed before, is produced from the rose copper (*gahr kobber*) of Roraas, is all refined at Leir Foss, a small rolling mill, about 6 miles from the city of Drontheim, which is under the superintendence of Mr. Stromeyer, the nephew of the celebrated chemist of that name. The Norwegian copper is particularly known from the quantity of sulphur it contains; in some instances, the ores raised there have from 70 to 80 per cent. of sulphur; at Fahlun, in Dalecarlia, Sweden, known in history as the oldest copper mine in Europe, and celebrated as the hiding-place of Gustavus Vasa, the copper does not average more than 3 per cent.; and there is such a great quantity of sulphur in the ores, that chambers are constructed in the mine for the making of sulphuric acid. Your correspondent, "Smelter and Refiner," though a practical English refiner, has evidently seen very little continental copper, or he would not have made use of the remark, "that if the continental copper

was analysed before being used, it would contain no sulphur." All the copper used on the continent for sheathing is refined in a reverberatory furnace of nearly the same construction as those used in England, and on the English method; the copper generally produced on the continent—indeed, I may say, all, with the exception of the Alten and Elbe Copper-Works—is made with charcoal, or coke, in a blast furnace, and is scarcely superior to our black copper from the roaster. The process is thus managed:—A conical pit is dug, and, when the copper is ready, it is tapped in this, in cakes; the smelter holds his bar in the tap-hole until every cake is set, and throws sand between each layer, to prevent their adhesion; when cool, it has a rose-coloured appearance, with blisters. This is generally sold for making brass, and contains, besides the copper, other extraneous matters, as sulphur and iron; if required for sheet, or any kind of manufacture, it is invariably refined on the English principle. I perfectly agree with him, that a skilful refiner can make good copper from all ores; and, though it may have reached 96 per cent., it does not follow that it will be tough and fit for sheathing, as, in the refining, the over and under polling has great effect on the copper.—GERMANICUS: *London, Aug.* 23.

COPPER SHEATHING.

SIR,—It is evident, from the letters of your able correspondent, Mr. Prideaux, that he doubts whether pure copper possesses the advantages for sheathing which have been attributed to it since the time of Sir H. Davy's well-known experiments. From some experiments of my own, and particularly from the examination of a specimen of copper, some years ago, I think its advantages are more than doubtful. The copper in question was put into my hands under peculiar circumstances. An action had been brought by a leading railway company against a manufacturer, who, they alleged, had supplied them with bad copper—the corrosion by heat and water having been very great.

On making the analysis of the copper for the railway company, I found it, contrary to their expectations, to be remarkably pure. The consequence was, they could show no evidence of its impurity, and they were saddled with the costs of suit. The important discovery by the late Prof. Daniell, of the existence of sulphuretted hydrogen, or hydro-sulphurets, in the waters at the mouths of tropical rivers, fully explains the rapid destruction of copper sheathing on the western coast of Africa; but I also believe experiments *are yet required*, to determine the relative corrosion of pure and alloyed copper in such localities.—W. BIRKMYRE: *August* 25.

COPPER SHEATHING—ITS WEAR AND TEAR.

SIR,—In perusing the correspondence carried on between Mr. Prideaux and "Smelter and Refiner," on the subject of copper sheathing, I cannot but express my doubts as to the latter gentleman being a smelter, even should he be a refiner. I am of a different opinion to him, in supposing that the quality of the copper entirely depends on the refiner, and that he cannot take a very active part in the smelting department, if he does not occasionally detect some little mismanagement in bringing forward the metal to the refinery. I believe Mr. Prideaux dates the appearance of bad copper more particularly from 1836. We are all aware that, since that date, we have had very large importations of Cobre ores, which consist of copper pyrites, and bear the proportions of metals as follows:—viz., 40 per cent. for iron, 40 per cent. for sulphur, 14 per cent. for copper, and 6 per cent. for other matters. These ores are mixed in as easy proportions as convenient with the Cornish, Welsh, Irish, and other ores, so as to work off the whole, and subjected to the ordinary process—viz.: 12 hours' calcination. I differ from parties pursuing this mode of mixture; and believe that, in order to insure good copper, and also the full produce of the ores, that the Cobre should not only be calcined separate from all other ores, but that every quality imported from those mines—viz.: dust, rugging, and stone—should each be calcined separately. The Cobre dust being pulverised very small, and which contains the larger proportion of sulphur, should be calcined 24 hours, taking great care that the heat be gradually increased the first 12 hours, and that it be well worked by an alternate stirring and puddling; and so increase the degree of heat, till it has been calcined the time specified. When the stone and rugging ores are mixed with the dust, they become imbedded in the latter, so as not to allow the heat, or air, to act upon them; and, therefore, they come out of the calciner just as full of impurities as when put in. Again, in calcining the stone and rugging, great care should be observed that too much heat be not raised at the commencement; if so, the exterior of the particles will become glazed over—while the interior will be left as full of impurities as when put into the calciner, which, of course, will be carried forward into the works, and prove injurious to the copper.

I believe, to insure a continuance of a good quality copper, that not only should this caution be observed in calcining the ores, but that the roasting should also come in for its share of attention; and, having given my opinion on the former, I will now proceed to point out, as far as my ability will allow me, the changes which have taken place within the last 10 years in roasting the metal; but it must not be understood, that I mean that all the smelting companies have resorted to these alterations; some of them, however, have, within the time specified, adopted the plan of tapping the copper from the roaster into the refining furnace through a launder, instead of into a sand bed. This, as I will point out, by-and-bye, I believe, tends to injure the copper—because, not only is this metal let in to the refining furnace very often before it is clear of regulus, but that it has no chance of extricating itself from the other impurities carried along with it, as this furnace is always kept as close as possible, so as not to allow any air to act upon the copper.

I believe that the roaster should be of large dimensions—not with a view of containing heavy charges, but so as to allow the metal it contains, the utmost area possible, to facilitate the expulsion of the volatile matters, and oxidise the iron, and other metallic substances which may remain. This process should be continued, to forward the metal to a pitch denominated *blistered copper*, and then tapped into sand beds. By thus treating it, and by the ebullition it here undergoes, most of the other gaseous matters will be got rid of. If this letter should tend to assist Mr. Prideaux in the objects he contemplates, it will be a gratification to—A ROASTER MAN.

Swansea, August 23.

ANALYSIS OF METALLIC ORES.

SIR,—In the perusal of your valuable Journal, my attention has of late been drawn to the numerous communications, propositions, plans, and suggestions, made use of by your numerous correspondents, in reference to improvements in smelting; but there is one subject to which I think a portion of your columns might be advantageously devoted, which has not been sufficiently attended to—the analysis of the various minerals, generally more or less associated with the majority of copper ores now generally smelted. There can, I think, be no doubt, that the separation of the constituents of each mineral, would lead to most important results. The most prevalent copper ores now in the market, are what are generally designated yellow sulphuret, or copper pyrites—a combination of the sulphurets of copper and iron; these are more or less accompanied with what are termed mundic, or iron pyrites—a combination of iron and sulphur. They are also frequently accompanied by arsenical iron, containing iron, arsenic, and sulphur; also blende, or the sulphuret of zinc, containing zinc, iron, and sulphur. These conjointly contain large quantities of sulphur, iron, arsenic, and zinc, which, under the present mode of smelting, are either drawn off with the slag, escape through the flues in a vapourised form, or mix with, and deteriorate the copper, although they are all articles of large consumption, and might be made commercially available. There is another kind, called gossan ores, generally containing the carbonates and oxides of copper, often accompanied with tin, iron, and silver. For instance, the Bedford United Mines, near Tavistock, produce ores containing carbonate of copper, peroxide of tin, and from 5 to 15 ozs. of silver to the ton of ore, which is now sold as *copper* ore—while, if the silver was extracted, it would add greatly to the returns of the mines.

The copper ores from the mines of St. Just also contain tin and sulphuret of bismuth, and other valuable commodities, which cannot be separated by the ordinary mode of dressing the ores. The Consolidated Mines, United Mines, Carn Brea, and Devon Great Consols, have all, or nearly so, their lodes impregnated with more or less of the minerals alluded to; in fact, all copper and tin lodes are impregnated with some metal, which, by chemical aid, might, I think, be turned to something advantageous, although at present thrown away as waste, from the neglect of chemical analysis, and an improved mode of operation at the smelting establishments; but which, by the proper and judicious application of chemical agency, might be separated, and each rendered marketable, as well as the one ingredient to which the smelters now turn their sole attention—copper. Of course, an outlay would be indispensable, to apply the different processes in bringing each respective quantity to bear their own relative proportions; or whether these processes would have a tendency to deteriorate the copper, remains a problem not yet solved. M. W. B.

Poldice, near St. Day, Cornwall, August 23.

THE MINING INTERESTS—A COPPER COINAGE.

SIR,—I believe I may affirm, without fear of contradiction, that the mining interests of Cornwall—all of them copper, tin, and lead—are, at the present time, suffering a depression which has had no parallel in our annals; and which, if existent in any other branch of national industry, would have roused, long since, public attention. They who have been adventurers in mines can alone tell the fearful loss of property they have sustained. I can point out many who, a few years since, possessed a property in mines, varying from 3000*l.* to 20,000*l.*, out of which they were deriving a suitable income, and which now would not bring as many shillings—indeed, it has crumbled to nothing. What has been the endurance, the distress, of the labouring miner will be attested by the large number who have been driven from their native homes to emigrate in distant lands. Tradesmen of Truro, of Helston, of Penzance, of St. Austell, and of Redruth, you have learnt, to your cost, the difference between mining prosperous and mining depressed, and that the mining interests constituted your best customers. Are we to remain passive spectators of the ruin which is sweeping over our county? Legislators of Cornwall—pledged defenders of your constituents' interests—will you abandon us? What, then, is to be done? Where seek a relief?

As a measure calculated to be of some, if not considerable, benefit to us, permit me to ask your advocacy, and through you that of the influential of our county, for an immediate copper coinage. The merit of first suggesting this measure is, I apprehend, due to Capt. Davis, of Fowey—a gentleman for whose exertions in the cause, the lord of the soil, the mine adventurer, and the miner, cannot be too grateful. More than two years since he took up the matter, and, with his accustomed energy, collected and adduced such information, and made out a case so strong, as obtained for it a most favourable reception, I am told, not only from Sir C. Lemon, and other influential Cornishmen, but also from some of the leading Members of the Government. However, it appears, when handed over to the subordinate officials, the proposition became smothered, and it ended in nothing, for no other reason, I can understand, than because it might give some little additional work.

The strength of the case rests on the following facts:—That there exists in the copper mines of Cornwall unexampled distress—that a copper coinage would be a great boon to them, by such a subtraction of metal from the market—that the estimated amount of copper in circulation, for the three kingdoms, is only about 1,000,000*l.*; and that there has been found to be, in several places, and on many occasions, a great scarcity of copper in circulation; but if a positive scarcity is not admitted, that the country could advantageously take a larger amount of copper in the ordinary transactions of daily occurrence—that there has been no great copper coinage in the present reign—that this juncture is peculiarly favourable for so doing, from the low price of the metal, even if that low price, and the legal value of all copper money, does not exhibit a disproportion so great as to require a revision of the whole copper circulating medium.

What will your readers think of 1 lb. of copper, now to be bought for 9d., being converted into 24 pennies, for such it will produce of pennies of recent date? Now, allowing 2d. per lb. to cover all expenses of coinage, it follows that it would yield to Government more than cent. per cent. profit. Thus, without doing any wrong, or mischief, but rather accomodating the public, a copper coinage might now be most opportunely ordered, and with an addition of one-third to the present circulating medium, which, I submit, the wants of the country can well take; this would be equivalent to nearly the three months' product of Cornwall, retired from the market. Need I insist upon the relief this would afford to us now?—and I hope I have said sufficient to enlist your assistance, and that of others, to promote this desirable object. Let us press it more as an act of grace from the Crown, in consideration of our severe suffering.

Truro, August 21. ——— A SMALL ADVENTURER.

STRUVE'S MINE VENTILATOR,—AND LOW-PRESSURE ATMOSPHERIC RAILWAY.

SIR,—In your notice of the proceedings of the British Association at this place, I observe you have stated, in alluding to the mine ventilator, which is now in course of erection at the Eagle's Bush Colliery, and which is of sufficient dimensions to pass 40,000 cubic feet of air through that colliery, that the cost will be 1000*l.*, whereas it will not exceed 400*l.*, including the steam-engine.

In the notice of my low-pressure atmospheric railway, you have stated, "The train of carriages would thus pass through a covered way, which might be lit with gas;" instead of which read, "*Into which the daylight may be admitted through glass,*" as the pressure would not break glass. I am quite sure you will be so kind as to notice these corrections in your next Journal.—W. P. STRUVE: *Swansea, August* 22.

THE LATE EXPLOSION IN ALBANY-STREET.

SIR,—Permit me to call your attention to the detailed account of the adjourned coroner's inquest on the Albany-street supposed gas explosion, which sat before Mr. Wakley on the 21st inst., and reported in the *Times* of the 22d inst., particularly to that portion of the same, given as evidence by Dr. Arnot. This gentleman stated to Mr. Wakley and the jury, that the most explosive mixture of coal gas and common air, to be in the proportion of one of the former to 10 of the latter—whereas, if he had been really experimentally acquainted with the matter, he would have known, that as coal gas is susceptible of explosion when blended with air in proportion to its levity, and that pure carburet of hydrogen (two volumes of hydrogen gas + one volume of hypothetical carbon vapour, associated into one volume), as obtained from acetate of potassa, and perfectly free from any admixture whatever, has its highest explosive condition in a mixture of 1 to 11 of air. But, Mr. Editor, all coal-gas contains an additional dose of carbon, which, augmenting its density above the figure of that of pure carburet, as ·366 : ·410, requiring, in accordance with the general law, an augmentation of oxygenated nitrogen, to effect that condition of instantaneous combustion upon which explosion depends. The proportion to effect this object, with the fire-damp of coal mines, was determined, by the illustrious Davy, to be as 1 : 10; but I believe that of coal-gas has never yet been determined, partly on account of its density being universally variable, even at the same works.

With respect to the more important part of the testimony, on the force of the explosion, quite as much mystery and vague uncertainty exists; it is quite reasonable to expect that a due mixture of oxygen and hydrogen, in a state of purity, are in the condition to explode with the greatest violence, unincumbered, as the effect is, by the cooling and incombustible influences inevitably produced by the carbon, sulphur, ammonia, and nitrogen, which are the inseparable accompaniments of 1 volume of coal-gas with 10 of common air. Now, we know well, by eudiometric experiments, that the force of the explosive combination of 2 volumes of hydrogen, and 1 of oxygen, both in a state of complete purity, chemically speaking, does not exceed 15 atmospheres; also, that the force due to the ignition of 1 volume of pure carburet of hydrogen, with 11 volumes of pure air, does not exceed 6 atmospheres; and my own experiments, in 1845, to produce tractional vacuum for railway purposes, developed to me, that a plenum in one, and an exhaustion in another, of 3 sheet-iron vessels, equal to one atmosphere, could not be produced by the explosive ignition, in the central vessel, of any mixture of coal gas and common air. What, then, becomes of Dr. Arnott's statement, as a matter of evidence?

He also recommends as a remedy, to prevent the recurrence of such calamities, that as coal-gas, from its levity will, when infused into confined common air, seek, and remain at the upper parts of the room, there should be an aperture connected with the chimney, which would enable it all to flow off. Is it possible that Dr. Arnott, the presumed author of a didactic work on natural science, is not acquainted with that quality of æriform bodies called *the faculty of diffusion?*—a quality depending on the fact, that one gas is to any other gas as so much vacuum, to the extent of the play of the preliminaries to chemical combination, whereby one cubic foot of coal-gas, infused into a room, would actually, as it were, merge into the necessary quantity of common air to secure the objects of Nature—explosion—even down to the floor, against the ordinary play of gravity and levity, and without the smallest increase in the bulk of the gas—commingled air. But, supposing 1200 cubic feet of coal-gas escaped into a room, whose cubic capacity was 6000 ft. = 20 ft. square and 15 ft. high, while rather less than 600 cubic feet of gas actually disappeared in the 4800 ft. of common air, like water into a sponge, another + 600 ft. of gas, would, by its levity, remain at the ceiling in nearly a state of purity; and, although disposed to flow off by any aperture there situated, yet the air—absorbed gas would certainly remain behind. How fallacious, then, and tending to mislead the public, must it be for any man to put forth such a panacea as a medium of safety?—W. RADLEY, Ch. E.: *London, August* 23.

THE LATE GEORGE STEPHENSON, C.E.

SIR,—Although your Journal may not be suited for epitaphs, yet there is no rule to which there may not be an exception; and your remarks, on the late Mr. Stephenson having drawn from an admirer, as every one must be, of the genuis of this great man, the following impromptu, you may, perhaps, be induced to give it insertion.—G. C.: *London, August* 21.

No marble, chisell'd by the sculptor's hand,
Against the ravages of time can stand;
But STEPHENSON no monument requires.
Sprung from no noble race of noble sires,
Yet every engine's blast fires forth his fame;
And endless roads, inlaid in iron, proclaim
His mighty genius and his lasting name.

SIR ISAAC NEWTON'S BIRTHPLACE.

SIR,—In your last Number I had to apologise for not sending you the wood-cut of the town residence of our illustrious countryman, Sir Isaac Newton. I sincerely wish, Mr. Editor, that the matter was in abler hands, as it is a subject of paramount interest to men of literature and science, and the antiquary, and one which should be entirely free from the slightest breath of suspicion, as to its authenticity. A question has, however, arisen, whether the observatory, as it now stands, on the top of the house in St. Martin's-street, Leicester-square, was really erected and used as such by Sir Isaac, or not. As to his residing in the house for years there can be no question, but should it turn out that this observatory was a subsequent erection, a drawing representing it as existing in Sir Isaac's time, would be a fraud upon the public, and until I can satisfactorily clear this up, the wood-cut must unavoidably be deferred.

In order, however, to prevent disappointment, and make some amends for the delay, I send you a cut, representing a perspective view of the house in which Sir Isaac Newton was born, and the following expressive lines, which I have copied from an old manuscript, and which will convey more than all I can write on the subject. ANDREW SMITH.

Millwall, Poplar, August 24.

WOOLSTHORP HOUSE, LINCOLNSHIRE.

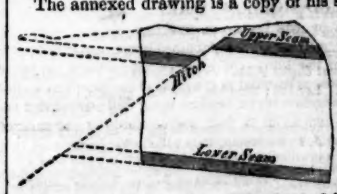
Birth-place of Sir Isaac Newton.—Born December 25, [illegible]—Obit March 20, 1726.

Here Newton dawned!—here lofty wisdom woke!
And to a wondering world divinely spoke.
If Tully glow'd when Phædrus' steps he trod,
Or fancy framed philosophy a god;
If sages still for Homer's birth contend,
The sons of Science at this dome must bend.
All hail the shrine!—all hail the natal day!
Cam* boasts his noon—this cot his morning ray.

COAL WORKING—"HITCHES."

SIR,—In the *Mining Journal* of August 12th, there is an article under this head, in which a correspondent asks an explanation of some peculiarities connected with them; so, if you think the following observations are worthy of a place in your Journal, it will give me very great satisfaction. The questions were, in the first place, why a "hitch" is sometimes much smaller in one seam of coal than another, though there may be only a few fathoms between them? Secondly, why "hitches" are sometimes found in one seam, which do not appear at all in the seam *above?* And, thirdly (the particular case mentioned), why a "hitch" in one seam is not seen at all in another situated *below* it? Then, first, a "hitch" must be formed, either by pressure (volcanic, or otherwise) from *below*, or by pressure (of superincumbent strata, &c.) from *above*. Now, assuming that the "hitch" in question has been formed by the latter cause, it is natural to suppose that the lower strata will become gradually *less* dislocated, till it is not at all affected by the downward pressure; for it is not to be supposed that any *external pressure*, how great soever, can dislocate, to any *very great depth*, the strata which forms the "earth's crust." But it may be argued, if one stratum is depressed to a certain extent, the strata below must be depressed to the same extent, or how could the upper part get down? Now, this is easily explained; for, of course, the pressure which dislocates the strata must also *compress* it to a certain extent, and thus, without actually moving it, make room for the superincumbent mass. Although I do not at present remember any particular case on a large scale, to a small extent the phenomena may very often be seen in almost any coal seam—*i. e.*, a "hitch," which depresses a few inches the roof of the seam, without at all affecting the "thill," or floor; the coal in these cases is *compressed*, or what the pitmen call *nip'd*. This explanation will not hold good, when the "hitch" is caused by pressure from *below*; but I should think, under such circumstances, the case could hardly exist. But, Sir, you must have observed that your correspondent has not extended his section far enough to illustrate his case.

The annexed drawing is a copy of his section, but continued by dotted lines, to show where the lower seam would "cut" the "hitch;" so, if the seam is not further worked than shown on the section, the hitch is not yet *proved* in the lower seam.



The above, I hope, is a satisfactory answer to the first and third queries; the second is easily explained, by supposing that the dislocations in a seam have been formed before the seam *above* has been deposited.—A YOUNG PITMAN: *Newcastle-on-Tyne, Aug.* 19.

TRACTION ON RAILWAYS.

SIR,—Residing in this locality, it may be supposed that a person having any improvements to suggest in railway construction, would find little difficulty in introducing them. Such, however, is not the case; and it is next to impossible to get any parties to listen to any suggestion, unless backed by good connections: hence my wish to lay the following paper before the public, through your valuable columns. The ground plan of my improvements is a steady parallel traction, avoiding all oscillating motion, and thus securing both safety and economy.

It may appear presumptuous in a working mechanic to criticise the arrangements of railway transit, placed under the control of engineers considered to be eminent in their profession; but, with due deference, nevertheless, I feel perfect conviction, that in the side-buffer system a method is tolerated inimical to parallel traction; in fact, a method which obviously promotes oscillation, instead of suppressing it; and thus safety depends more upon weight than the scientific arrangement in construction. After years of experience with this buffetting system, I beg to ask—how stands the problem; is friction reduced, and is the gauge war likely to be decided? I think not; mechanical arrangements for steady parallel traction must be had recourse to before these desiderata can be effected. All makers of common road carriages test their traction; and, no doubt, the obvious necessity that the wheels should follow parallel with the draught and road, has led to this general practice, which, if not followed, the car-

* The River Cam, which gives the name to the City and University of Cambridge.

riage will follow badly, causing great friction and heaviness of draught; and if such accuracy is necessary with a carriage running freely on a common road, how indispensable must be the test to carriages running upon the restricted tracks of a railroad. Can it be considered of no consequence how carriages run upon railroads, so they keep upon the rails? —is this all that science requires; and is this to be finality?

Again, when we consider the resistance which the common road presents to traction, compared with the railroad, we should suppose that the road carriage would require extraordinary strength to contend with difficulties from which the uniform surface of the rails exempts the railway carriage, and yet it is the latter which requires the extraordinary strength to withstand the buffeting shocks it experiences in passing over this smooth roadway of iron. These carriages are dependent chiefly on their great weight for safety, and it is in this merely that the broad gauge claims advantage over the narrow; greater width and greater weight may be considered to render it more safe at high speeds. Prof. Airey thus expresses himself with regard to our railways:—"In my opinion, the present state of English railways is far from satisfactory; I think it a disgrace that a railway should extend from sea to sea, necessarily employing a break of gauge, between north and south, and that the present state of railway law does not hold out the prospect of a speedy removal of this disgrace." If the narrow gauge party would but seek the acquisition of perfect traction, its safety would be indisputable, and then the broad gauge would soon resolve itself into the narrow, which is, no doubt, of ample width; but so long as the sad imperfection of oscillation is tolerated, so long will the state of railways be far from satisfactory. GEORGE MILLICHAP.

Birmingham, August 19.

STEAM-CARRIAGES ON TURNPIKE-ROADS.

SIR,—I observe, in your Journal of last week, a letter signed by "C. Weekes, C.E.," in which he intimates (alluding to a letter of mine previously published in your Journal), that it would have been desirable if I had stated details, so as to have enabled persons to form a more correct opinion of the probable success of Sir James Anderson's steam-carriage. In reply, permit me to observe, that as it is probable, in a few weeks, an actual trial will be made, this will be better than the most elaborate description of details, or the most perfect theoretical deductions. I will, therefore, only add, that I consider one of the greatest and most important improvements made by Sir James Anderson, is the fact of having adopted oscillating cylinders. C. W., however, in the absence of the desired information, and without knowing how far Sir J. Anderson's improvements were likely to meet his views, as to what he considered essential to success, nevertheless affirms, that Sir J. Anderson has not accomplished these objects; upon what data he founds his conclusions, I am at a loss to conjecture. C. W. further contends, that it is most important to reduce the friction in the engine rather than on the surface of the road; but in this I respectfully beg leave to differ. I contend it is most important to reduce the cause of concussion, and consequent friction on the surface of the road, which the past experience of rails and tramways sufficiently proves. C. W. alludes to a plan for locomotive railways which he thinks may succeed, of which I entertain very strong doubts, for reasons which it is not needful now to state. But what appears to me extraordinary is, that C. W. seems to overlook the most important part of my former observations—viz.: the circumstance of laying on the middle or side of the road timber, or other tracks, which would render unnecessary an extraordinary attention to springs, &c. In order to enable him, and your readers, to form some opinion thereon, permit me briefly to explain the mode of construction I should propose if timber tracks were determined upon.

Wood-paving has hitherto been unsuccessful, principally on account of a want of a sufficiently firm base to prevent the blocks sinking below each other; to remedy which, I propose to construct angular troughs 15 to 18 ft. long, with planking 2 in. thick—say, 18 in. wide at top, and 9 in. deep in the middle, and then to fill the interior with suitable angular blocks, the upper surface of these blocks to be the end way of the grain, and the wood may be either beech or elm—the former would perhaps be the best—and the blocks may be cut so as to avoid waste of material. These tracks, I apprehend, may be made fit for laying down complete at from 3s. to 4s. per yard run—these tracks to be embedded in and flush with the surface of the road, with proper concrete, which would render them immoveable, and prevent the possibility of an unequal surface. On such tracts as these I estimate the traction or friction not to exceed 12 lbs. per ton, which is about 3 lbs. more than on iron. On the Edinburgh and Dalkeith Railway, which was for many years worked by horses, the allowance for one horse was to draw 40 passengers at 10 miles per hour.

I, therefore, imagine that on these tracks one horse would draw at least 30 passengers at the same speed; thus showing that Telfourd and Sir H. Parnel were correct in stating, that on a rail, or perfect track, on the surface of the road, although undulating, one horse would draw as much as five or six; and, consequently, as far as regards horse-power, the usual charge of 2d. and 3d. per mile made by coaches on turnpike-roads, might be reduced to ½d. and ¾d. per mile, and still afford a reasonable profit. But with steam-power the profit would be large indeed, which the following statement will exhibit. I estimate Sir James Anderson's engine to be equal, at moderate working, to eight horses, and, therefore, it will be fully equal (even without tracks) to convey, on such a road as from Hyde-park to Hounslow (10 miles), at least 40 passengers. But let us imagine the tracks laid, and the engine (though capable of drawing three times the number) yet confine it to 40 each trip, and that it makes 10 trips per day, the account would stand thus:—

CR.—400 passengers, at 6d. each				£10 0 0
DR.—Cost of fuel for 100 miles, at 4d. per mile	£ 1	13	4	
Engineer, 7s.; guide, 5s.; guard, 4s.	0	16	0	
Toll, 1d. per mile	0	8	4	
Duty, ditto	0	8	4	3 6 0
Add other expenses—say, 50 per cent.				4 13 0
Gross profit				5 1 0
Total				£10 0 0

Thus, after making the liberal allowance of 50 per cent. to cover all other expenses, it leaves a gross profit of 100 per cent. Large as this appears (especially by adopting the means I have suggested), I have not the least doubt but this astounding result may, and will one day, be most amply confirmed.—THOMAS MOTLEY: *Bristol, 8th mo.* 18.

[ADVERTISEMENT.]

ENAMELLED HOLLOW WARE.

TO THE EDITOR OF THE LIVERPOOL MERCURY.

SIR,—Our attention having been drawn to a letter published in your paper of the 4th inst.—[also in the *Mining Journal* of the 12th]—conveying an impression to the public that we used an injurious and poisonous material in the make of our patent enamelled pans, we immediately took steps to ascertain the particulars, being well assured that nothing of a deleterious character was used by us in such manufacture—as the annexed certificates from eminent chemists (which we here append) will show.

We are, Sir, your obedient servants,

T. & C. CLARK & Co., Wolverhampton.
A. KENRICK & Sons, West Bromwich.

Royal Institution Liverpool, August 15, 1848.

GENTLEMEN,—Having, at your request, very carefully, and by a great number of experiments, chemically examined your glazed iron pans, with the view of determining whether any substance employed in ordinary culinary operations could be injuriously affected thereby, I beg to state, that the results obtained fully satisfied me that no substance calculated to produce injury to health could be extracted.

I am, Gentlemen, your obedient servant,
R. H. BRETT, P.L.D., F.L.S., &c.,
Lecturer on Chemistry and Medical Jurisprudence at the Liverpool School of Medicine.

Laboratory, Royal Institution, Liverpool, August 14, 1848.

GENTLEMEN,—I hereby certify that I have submitted all the preserves sent to me by Mr. Callon, surgeon, and to which reference was made in a former letter of mine, published in the *Liverpool Mercury*; and, although I employed tests capable of detecting very minute quantities of arsenic, I was unable to detect any of that mineral.

R. H. BRETT,
Lecturer on Chemistry and Medical Jurisprudence at the Liverpool School of Medicine.

August 15, 1848.

GENTLEMEN,—I am happy to hear from Dr. Brett that he has pursued his analysis of the preserves alluded to in my letter to the Editor of the *Liverpool Mercury*, of the 4th inst., and has failed in tracing a vestage of arsenic therein. He also states, that he has subjected your pans to ordinary culinary operations, and is fully satisfied that nothing injurious to health can be extracted thereby. It is, therefore, reasonable to suppose, that the symptoms under which my patient laboured, arose from some other unknown cause.

I am, yours very respectfully, W. T. CALLON.

We also beg to append the following certificates:—

London, 1848.

GENTLEMEN,—I have great pleasure in again certifying what I have already done in open court, upon oath, namely, that I have daily witnessed the process of enamelling carried on in the factory of Messrs. T. and C. Clark and Co., of Wolverhampton, during the space of nine or ten weeks, and that, in conjunction with Professor Brand and Mr. John Thomas Cooper, I have carefully examined the enamel employed, and found it perfectly free from any matter that can be in the slightest degree injurious to health; and, further, that I have myself used these vessels for chemical as well as culinary purposes, and have recommended their use to my own personal friends.

MAURICE SCANLON,
Licentiate Master Apothecary, Member of the Chemical Society of London, and of the Royal College of Chemistry in London.
Chemical Works, Great George-street, Bermondsey.

King's College, London.

GENTLEMEN,—In compliance with your request, we have carefully examined the enamel glaze upon a saucepan, purchased at a retail ironmonger's shop, stamped at the bottom with the name of A. Kenrick and Sons—we find it to be perfectly free from lead or any other deleterious ingredient.—We have the honour to remain your obedient servants,
WILLIAM ALLEN MILLER, M.D., F.R.S., Professor of Chemistry.
J. C. BOWMAN, Demonstrator of Chemistry, King's College.

IMPROVEMENTS IN OBTAINING AND APPLYING MOTIVE-POWER.

[Specification of patent granted to John Weston, of Portland Town, in the county of Middlesex, machinist, for certain improvements in obtaining and applying motive-power. Patent dated 16th February, 1848.]

This invention consists in, and has reference to, certain improvements in obtaining and applying motive-power, effected through the agency of certain new or improved mechanical combinations, or arrangements, hereafter set forth, and described and illustrated by the drawings annexed to the specificaton.

The invention is divided into four parts, or principal divisions. The first whereof has relation to the *generation of steam* to be employed as a motive-power, in the manner hereinafter set forth.

The second part of the said invention has relation to certain modes of, and machinery or apparatus for, *propelling* carriages on railways, in the manner hereafter set forth.

The third part of the said invention has relation to certain improvements in the construction of that class of engines known by the names of rotatory, or *rotary, engines*, as hereafter set forth.

The fourth part of the said invention has relation to certain improvements in *air-pumps*, applicable for the purposes of exhausting or compressing air, for obtaining and applying motive-power.

GENERATION OF STEAM.—Set a steam-boiler in brickwork, with a T-shaped pipe passing through and across the same, one end of the horizontal portion thereof leading into the chimney, and the other end communicating with the furnace; the lower end of the vertical portion of this T-shaped pipe is furnished with a valve for regulating the admission of the compressed air and gases into and amongst the water, which surrounds the said pipe. The construction and arrangement of the furnace is as follows:—A cylindrical-shaped casing of iron, composing the furnace, is lined with fire-brick; this casing being closed at its upper and lower ends by plates, which are secured thereto in any convenient manner for rendering the same air-tight, or nearly so. A revolving fire-grate, has its upper edge in contact with the underside of the fire-brick, with teeth formed upon it, into which a pinion gears, for imparting rotary motion to the grate, through the agency of any available prime mover; this fire-grate is maintained in its proper position by a vertical pipe, which has a projector fixed to, or formed thereon, upon which the fire-grate rests. In the upper portion of the furnace, directly over the fire, a number of retorts are placed; and the upper necks of these retorts have a hollow chamber, cast or formed around them, which is rendered air-tight—a communication being established between the chamber and each of the retorts by openings, which are furnished with valves, for the purpose hereafter described. In the bottom of the retorts is an opening, for the purpose of discharging their contents, by means of a door and weighted lever, into the furnace; the upper end of the retorts being provided with a door, for closing them after they are charged with fuel. A compressed-air reservoir, which may be supplied with compressed air through a pipe, by any known means, is connected with the furnace, and has a series of tubes, the upper and lower extremities of which are securely fixed in plates, so as to leave the space surrounding the tubes perfectly air-tight, distinct, and separate from the enclosed space above and below the reservoir, into which, through a pipe and tubes, waste, or other steam, passes, for imparting heat to the compressed air. For condensing the steam there is a condenser, composed of a series of tubes, which are surrounded with cold water through one pipe. The heated water passes off by another pipe, and the water from the condensed steam passes off by a third pipe. It is proposed to employ this water for feeding the boiler. For effecting a communication between the compressed-air chamber, the furnace, and boiler, these pipes are furnished with cocks, for the purpose hereafter described. A valve-box receives the compressed air and gases, which become mixed before passing into and amongst the water in the boiler, where they are deprived of their excess of caloric. Two valves, are fixed to a cross-shaped piece, in order to ensure their acting simultaneously: these valves fit in seats, formed in the casting, and are connected to one end of a rod, which works air-tight in a stuffing-box, and has a nut and collar upon its opposite extremity, between which and the stuffing-box a helical spring is placed, for returning the valves to their seats, when there is no discharge of gas from the retorts; for regulating the quantity of air passing from the furnace, a damper is employed; and there is a door, or man-hole, by which access may be had to the interior of the furnace, for the purpose of supplying the fire-grate with bars, or other purposes—the said door, or man-hole, being rendered air-tight, by any of the usual means.

The *modus operandi* of this apparatus is as follows:—A fire being first lighted in the furnace, the retorts are then filled with small coal, or other suitable fuel, and their lids closed and secured air-tight in any convenient manner; the damper is then raised, and the atmospheric air allowed to pass by a cock through the fire, until it is well lighted, when the cock and damper may be closed, and the compressed air be admitted by the cock to the fire, through openings in the pipe. During this period of time the fuel in the retorts will become heated, and the gases arising therefrom will pass by one of the valves into the chamber; and when the pressure thereof is in excess of that occasioned by the column of water in the boiler the valve will be forced down, and the compressed air and gases, as they pass through the valve-box, will enter into and amongst the water in the boiler, and convert it into steam, and continue to enter, until the pressure in the two are in equilibrio, when the valve will close. The fire in the furnace, when required to be replenished with fuel, receives its supply from one of the retorts, which may be discharged by raising a weighted lever. If found necessary, the retort lid may be raised, and the carbonised fuel broken, or divided, to ensure its passing through the proper opening, when the revolving of the fire-grate will cause it to be distributed uniformly over its surface; after which the proper opening must be closed, and this retort recharged with coal to be carbonised; and in order that the contents of each retort may not be converted simultaneously, it will be found necessary to charge and discharge the retorts in succession—the interval of time between the conversion, or carbonising, of the fuel in each depending upon the judgment of the workmen in charge of the apparatus, and the relative capacity which each retort bears to the superficial area of the fire-grate. When it is required to check combustion of the fuel in the fire-grate, the same may be effected, by causing the apertures in the pipe to be throttled, or entirely shut off; or, when it is not required to supply compressed air to the water in the boiler, the communication may be cut off by shutting the proper cocks. In order that the heated air and gases may be equally diffused through and amongst the water and steam in the boiler, a finely-perforated metal plate is employed, to divide them into small streams, or jets. [*To be continued.*]

Patent-office and Designs Registry, 210, *Strand, August* 22.

ALTERATION IN THE PATENT LAWS.—This subject, one of vital importance to all connected with commerce, is, we are happy to inform our readers, likely to receive some attention from the Government, as it appears that the commission, ostensibly appointed to "inquire into the practice of the Privy Seal and Signet Offices"—offices through which letters patent pass before receiving the Great Seal—is empowered to inquire into the whole system of passing patents. We rejoice to find that the petition to Parliament, got up by Mr. Campin, and given in our columns some time since, has made a great impression on this commission, who, on Saturday last, called Mr. Campin before them, and examined him upon the subject. We trust that this inquiry will not result, as such inquiries too commonly do, in some mere alteration of routine, but will lead to a beneficial change, that shall place patent rights within the grasp of all inventors, even those of small means.

DEATH OF MR. RICHARD WITTY.—The Hull papers announce the death, at the age of 76, of Mr. Witty, the acknowledged inventor of the oscillating steam-engine. He died after a protracted illness, and in circumstances, we fear, of considerable distress. A subscription was set on foot for him two or three years ago, but it never reached an amount at all commensurate with the services he had rendered to the country, or with the general estimation in which he had always been held, as a man equally distinguished for mechanical genius, and moral worth.

INCRUSTATION OF STEAM-BOILERS.

In addition to Ritterbandt's, and other processes patented in England, many others have been patented in France for the prevention of this great source of injury to steam-boilers of all kinds. M. Michie recommends the use of the solution obtained by boiling 100 parts of spirit oak bark, or refuse tar, in 100 parts of caustic soda lye, at 20° Baumé.

M. Serbat has patented the following:—Take 2 parts of turmeric powder, 1 roche alum, 3 carbonate of soda; make into a paste, and paint the interior of the boiler.

Mr. Enderby has a patent for the employment of urine, especially as regards the boilers of steam-vessels.

M. Saillard has patented several processes; a recent one is as follows:—Take 100 parts of sulphate of ammonia, 25 of nitrate of ammonia, 10 of caustic soda or potash, 210 of water. He recommends the use of sulphate of ammonia alone for sea water; of nitrate of ammonia alone for water containing carbonate of lime, and the mixture above given for water containing sulphate of lime. The proportions indicated in the patent are 18 ounces per horse-power per month for ordinary stationary boilers; 36 ounces per horse-power per month for river water steam-boats; 36 ounces per 10-horse power, per 24 hours, for sea-going steam-vessels. The important point is to find a remedy which shall prevent incrustation, and at the same time prove not injurious to the boiler, nor cause priming; most of the saline compounds act more or less on the metal, as may be detected by the addition of the proper tests to the water in the boiler, to which they have been applied. In the case of such water as that of the Paris Basin, almost saturated with gypsum, the best mode of procedure is to decompose the sulphate of lime beforehand in suitable reservoirs; for this purpose carbonate of soda may be applied, the effect of which addition is to form insoluble carbonate of lime, which quickly subsides to the bottom of the reservoir, from which the clear water may be syphoned off into another reservoir for use. In some experiments on the large scale, conducted at the Batignolles station of the Paris and Rouen Railway, 20,000 gallons of water per diem were readily softened and cleared for use; but the experiment, though perfectly successful in a chemical point of view, did not succeed in its application to the iron of locomotive boilers, inasmuch as the large quantity of sulphate of soda left in solution in the water produced priming—1000 gallons of this water contain more than 13 pounds of sulphate of lime. A method, however, has been discovered by Mr. Durden, for the complete removal of the sulphate of lime without the possibility of the slightest priming being produced, and the hardest water may thus be rendered fit for all manufacturing operations, as well as for washing.—*Trans. Paris Academy of Sciences.*

IMPROVEMENTS IN FURNACES AND THE MANUFACTURE OF GLASS.

[Patent dated Feb. 14, 1848. Patentees, James Timmons Chance and Edward Chance, Birmingham. Specification enrolled August 14, 1848.]

In reverberatory furnaces, as at present built, the flame and heat, after being reverberated by the arch above, is allowed to escape into the chimney. The Messrs. Chance now propose to cause the heat, after it has been reverberated, to pass over the back of the reverberatory arch, by building a second arch above it, after which the heat, flame, and smoke are to be allowed to pass into the chimney. A second branch of their specification has relation to a peculiar description of tongs, for drawing the plates of glass into annealing furnaces, formerly patented by them. Instead of *pushing* them in, as has hitherto been customary, whereby a loss was sustained by turning down a portion of the plate, and allowing it to cool, they now make the tongs of a long rod, wedge-shaped at one end, and carrying two vertical supports, between which turns another rod, parallel to the first, and furnished at one end with a handle, and at the other with a grip of wood; so that when the workman has introduced the wedged portion of the lower rod underneath the plate of glass, he turns the handle of the upper rod, and brings the grip down on the top surface of the plate, which is thus held fast.—*Mechanics' Magazine.*

IMPROVEMENTS IN MARINE STEAM BOILERS.

[Patent dated Feb. 11, 1848. Patentee the Right Hon. Thomas Earl of Dundonald, Vice-Admiral of the White Squadron of Her Majesty's Fleet. Knight, Grand Cross of the Most Honourable Order of the Bath. Specification enrolled August 11, 1848.]

The present invention is stated to consist chiefly of certain improvements in a marine steam-boiler, which was the subject of a previous patent granted to the Earl of Dundonald, on the "—— ——." The date is left blank (a piece of great carelessness), but we believe the patent alluded to is one of the 5th Nov. 1835. Of the present improvements, however, which are five in number, there are two which have no relation at all to boilers of any sort.

1. To obtain a more perfect ignition of the gaseous products evolved from the furnace, the earl constructs an aperture in the back of each ash-pit, whence a current of air is led up the back of the furnace (and thereby heated) into the upper part, where it mingles with the said products, and promotes their combustion.—2. To dispense with the steam-chest placed above the boiler, where it is exposed to injury from shot, Lord Dundonald proposes to substitute a steam reservoir, to be placed below the water-line of the boiler. This reservoir is to envelope the funnel, in order that the heat of the latter may be imparted to the steam contained in the former, which will, consequently, be worked in a drier state.—3. To prevent priming, he places horizontally in the upper part of the boiler a plate of iron, or other metal, one end of which is bent vertically, and terminates in the water. The object of this plate is to prevent the too rapid ebullition of the water, and to intercept and retain the spray carried upwards with the steam, and to conduct into the boiler. To effect this object completely, the steam is caused to pass into what the patentee terms a "Centrifugal Separator," against the surfaces of which the spray which may still be retained by the steam is caused to impinge, by its rectilineal motion, and is afterwards conducted, by channels or other suitable means, back into the boiler, while the steam passes into the reservoir in a comparatively dry state.—4. To dispense with the main-shaft, or other inconvenient gear hitherto employed to connect the engine with any submerged propeller, Lord Dundonald would place in the stern of the vessel the rotary engine enveloped in the steam reservoir, and conduct the steam from the boiler to the said reservoir, through a tubing composed of any substance which is a bad conductor of heat. An air and water-tight tank, filled with water, is interposed between the reservoir and the stern-post of the vessel, through which the short main-shaft passes, which is thus kept cool, and leakage from stuffing-boxes prevented.—5. To prevent accidents to seamen and engineers employed in boats fitted with steam-engines, the earl proposes to place the rotary engine inside the steam reservoir, which is close to the boiler and centrifugal separator, and other apparatus, in enclosed and raised portions, of the boiler around the funnel.—*Ibid.*

PATENT IMPROVEMENTS IN DISTILLATION.

[Patent dated Feb. 14, 1848. Patentee, William Tottie, London, merchant. Invention communicated from abroad. Specification enrolled August 14, 1848.]

The invention which forms the subject of this patent, consists in causing the alcoholic vapour to pass through a series of layers of vegetable or animal charcoal, or other purifying substance, superposed one above another, and kept cool, or regulated to a certain temperature, by means of water, which is caused to circulate around each layer. The mode of carrying the invention into effect consists in the employment of a suitable vessel, placed on the still-head, or in any other convenient position. Inside the vessels are arranged a series of perforated plates, one above another, on which are placed the layers of charcoal, or other purifying matters. Over each layer is suspended a cover, but without touching the charcoal, and made with holes, to allow of the passage of the alcoholic vapour through up to the next layer. Around each layer is a channel through which water circulates, and which is furnished with inflow and outflow pipes, and means of regulating the supply; in the top of the vessel is a sponge, through which the alcholic vapour finally passes. The degree of temperature of the layers of charcoal should be so regulated, as that the alcoholic vapour shall leave the oil with which it is combined among the charcoal, and yet not impede the progress of the operation.—*Ibid.*

PATENT IMPROVEMENTS IN EVAPORATION.

[Patent dated Feb. 14, 1848. Patentee, Horatio Black, of Nottingham, lacemaker. Specification enrolled August 14, 1848.]

The present improvements in evaporation consist in causing the water to be supplied to steam or other boilers, to pass previously through the bars of the furnace, which are connected together and made hollow for that purpose, and are composed of brass, copper, or other suitable metal. The water is made to enter, by means of a force-pump, the centre of the set of fire-bars; and, after dividing into two streams, which circulate through the series, it passes out at either end into the boiler, at a very high temperature.—*Ibid.*

EXTRAORDINARY STEAM-TUG.—An iron steam-vessel, of unusual proportions in this country, has recently been built by the Hayle Foundry Company. She is called the *Dordrecht*, and is 205 feet in length, by a width of only 28 feet. Her engines are nominally of 200-horse power, but are equal to nearly 800, and the machinery weighs 200 tons. She is intended to ply as a steam tug on the Rhine, and her extreme draught of water is only 4 ft. 6 in. She left Hayle on Friday week, and the weather proving rough, she was struck, when off the Longships, by a heavy sea, and not being constructed for a sea-boat she sustained an injury which induced her commander to return. The requisite precautions having been since taken, she sailed again on Wednesday for Holland, where her owners reside.—*Bristol Mirror.*

The Paris and Strasbourg Railway Company have made a new call, and announced that the section between Paris and Epergnay will not be opened till next spring. This unfortunate delay must be ascribed to political causes, for according to the *Augsburg Gazette*, the company have 50,000,000 frs. in hand, a sum quite sufficient to carry on the works with vigour.

THE COPPER AND LEAD DUTIES BILL.

HOUSE OF COMMONS.

WEDNESDAY.—Mr. DISRAELI presented a petition, signed by 1000 miners at St. Austell, Cornwall, against the bill for the reduction of the duties on copper ores.—Lord JOHN RUSSELL promised the question should be brought before the House at 5 o'clock on the following evening.

THURSDAY.—Sir C. LEMON presented a petition, from certain persons in the county o Cornwall, against the bill for the reduction of duties on copper and lead.—Similar peti tions were presented by Lord G. Bentinck, Mr. Wyld, and Mr. E. Vyvian.

Lord John Russel having announced a proposed arrangement of business, omitting all reference to the copper duties bill, Lord G. BENTINCK asked the noble lord, whether he meant to fulfil his pledge of the previous night—that the question of the copper duties should come on at 5 o'clock—in which the Chancellor of the Exchequer had joined him.

Lord JOHN RUSSELL: It was our intention to move the copper and lead duties bill now; but the debate is not finished with respect to the business of the morning, and we must finish it before we go to any other subject.

Lord G. BENTINCK: I asked the noble lord, what time positively he would take up the subject; and it was then well understood that the Diplomatic Relations Bill was to come on at twelve o'clock.

The CHANCELLOR of the EXCHEQUER: It was my intention to move the copper duties at 5 o'clock; but I understand it was agreed at the morning sittings, that the Diplomatic Relations Bill should go on at six o'clock.

Mr. DISRAELI supposed they would not take the copper duties later than six o'clock. What he complained of was this—that the adjournment of the debate on the Diplomatic Relations Bill to six o'clock was the act of the Government. He did not think the Government was in a condition to adjourn the debate to an hour which, after long consideration, they had appointed for this other question.

Lord G. BENTINCK wished to know when the right hon. gentleman would bring on the question of the copper duties?—CHANCELLOR of the EXCHEQUER: Not after 11 o'clock.

Lord G. BENTINCK remarked, that, during the last five months, this bill had been postponed from day to day, with the solemn assurance from her Majesty's Ministers, that it should not be brought on at a late hour; then they promised that it would be brought in at five o'clock, and now the right hon. gentleman, the Chancellor of the Exchequer, stated another time.

The CHANCELLOR of the EXCHEQUER promised not to bring it on after 10 o'clock.

LECTURE ON ASIATIC CHOLERA, AT THE POLYTECHNIC INSTITUTION, REGENT-STREET.

This lecture, to which we referred in our Number of last week, contains some novel points, and remedial suggestions, of considerable scientific interest, to which we would call the attention of our readers.

The lecturer, Mr. ISHAM BAGGS, states, that the cholera, and various other pestilential diseases of which we have record in history, appear to possess a singular aptitude for developing themselves in low marshy situations, along the line of sea coast, and by the natural water courses of a country. The plagues of Egypt, the pestilence at Athens, the black death of 1348, which raged so fearfully at Florence, and the recent manifestations of *Cholera Indica*, are instances of this fact. If the track of the latter disease be carefully followed since its origin, as an epidemic, in 1817, it will be found, with scarcely a single exception, ravaging in those districts which lie upon the sea coast, and in fluviatile valleys; and, to render this position in a still stronger light, it appears that boatmen, and those living by the water-side, are the first attacked. The particular lines along which pestilence once travels, are the same which it follows on after occasions; and these well defined tracks of epidemic transit, Mr. Baggs terms "plague lines." The localities in question are readily ascertained; and, by passing without the pestilential barrier, the timid and independent may render themselves secure.

The connection existing between the development of cholera, and the electrical state of the atmosphere, appears to us to be placed in a very strong light, by the facts and inductive arguments of the present lecture; but there is one point to which we would especially call attention, on account of its high scientific interest. We refer to a curious extension of Liebig's theory of respiration. This philosopher, as is well known, considers the iron which is contained in the human blood of every individual, to perform the functions of an oxygenous absorbent and distributor. It is his opinion, that the metal exists in the veins as the black protoxide, and in the arteries as the red peroxide; the mere change of colour, however, which the blood undergoes in respiration, being referred to the operation of an entirely different principle. If Liebig's view is correct, then it follows as a necessary consequence, that the venous blood must be in a magnetic condition, and the arterial in a diamagnetic state; and, further, that the continuous relative movements of conducting and magnetic nature by the constant circulation of the blood, must give rise to the incessant generation of magneto-electric currents, which will doubtless be found hereafter to fulfil most important physiological functions in the human system. We are informed, than an eminent medical authority has stated his opinion of the correctness of these views, and has suggested the medicinal introduction of iron into the system, in the early, or premonitory, stage of cholera.

The lecturer, grounding his views upon the inductive reasoning given above, as well as on a firm conviction which he expressed, that the physiology of man in all its complicated relations, is governed by, and amenable to, the ubiquitous and mysterious force of electricity, proposes to place a cholera patient within a coil of wire, transmitting a voltaic current, that the ferruginous matter of the blood may be thus artificially brought into a highly magnetic condition, and those forces neutralised, which during the prevalence of an epidemic, have been well known to weaken the magnetic virtue of iron bars at Petersburgh, Greenwich, and elsewhere, and which, probably, exercise a similar action upon the iron contained in the human system. This suggestion, which certainly appears not to be based upon any whimsical idea, but upon the legitimate inductions of philosophy, was merely offered as a fair experiment to the consideration of the medical profession; and it is only right to add, that the lecturer disclaimed all power, and disavowed all intention of interfering with the established rules of medical practice. He merely came forward to offer certain suggestions which appeared to him to be reasonable; and thus, by endeavouring to provoke a spirit of discussion, upon one of the most important topics of the day, to throw the light of science upon the mysteries of disease.

ACCELERATION OF THE CORNISH MAILS.—We understand that the directors of the South Devon Railway have nearly completed arrangements for increasing the speed of all their trains, and especially the mail trains, and those in connection with the express from Exeter. By these arrangements, the London mails will, if the Post-office authorities avail themselves of the accommodation, be received in the different towns of this county from an hour to an hour and a half earlier than at present. It is also intended that a train shall leave the Laira station at about 1 p.m., to meet the 3.15 train at Exeter, so that parties leaving Cornwall by the "Tally-Ho," which will start two hours later than it now does, may reach London ar about 10 in the evening. This will be a great boon to the Cornish public; and the directors of the South Devon line deserve much credit for their exertions in the matter.—*West Briton.*

OFFICIAL RETURN RELATIVE TO RAILWAY ACCIDENTS.—By an analysis of the returns made to the Commissioners of Railways, it appears that of the 90 persons killed and 99 injured, on all the railways open for public traffic in Great Britain and Ireland, during the half-year ending the 30th June, 1848, there were—6 passengers killed, and 60 injured from causes beyond their own conduct; 5 passengers killed, and 2 injured, owing to their own misconduct or want of caution; 7 servants of companies or of contractors killed, and 14 injured, from causes beyond their own control; 52 servants of companies or of contractors killed, and 18 injured, owing to their own misconduct or want of caution; 18 trespassers and other persons, neither passengers nor servants, killed, and 5 injured, by improperly crossing or standing on the railway; 1 person run over and killed at a crossing, through misconduct of an engine-driver; 1 suicide—total, 90 killed, and 99 injured; and for the same period the number of passengers amounted to 26,330,492.

The following is too singular an instance of the difference of opinion between an arbitrator and umpire not to deserve recording:—The sum of 7050*l.* has been awarded to Mr. Warren, of Killiney, for compensation for encroachment upon his property, at Killiney Hill, by the Dublin and Bray line now in progress. Mr. Recorder Shaw acted as umpire in the case. The award of an arbitrator, against which there was an appeal, was 17,000*l.* The company offered about 6,000*l.*

The speedy communication now opened with Ireland, by the Chester and Holyhead Railway, has induced the Post-office authorities to alter the present arrangement *vid* Liverpool. After the 18th of September, the mail packet fot Liverpool will leave Kingstown pier at 4 30 P.M., instead of at 6 30 P.M., as ar present, The object of this arrangement is to ensure the arrival of the mail from Dublin at Liverpool at such an hour in the morning as to permit it to be forwarded from the latter town to London by the 6 A.M. express train. It is said that, with a view to this, as well as other changes, more powerful boats will be put on the line to Liverpool. All the correspondence between Ireland and those places to which Liverpool offers the speediest communication, will go this route; all that for London direct, and the places on that line, will go *vid* Holyhead.—*Railway Chronicle.*

LONDON AND NORTH-WESTERN RAILWAY.—It is with much pleasure we record the gratifying fact, that the question in dispute between the old engine-drivers and the directors has been amicably settled, to the satisfaction of all parties; this was ultimately brought about by a deputation of the drivers waiting on Mr. Glyn, the chairman, whose kindness and liberality to the officers and men in the company's employ is proverbial. On Monday, Mr. Creed, the secretary, sent a letter to the press, to the effect that the whole of the men would be re-employed, and that the new hands should not be prejudiced in consequence. A great many of the men returned to their duties on Monday, and the remainder followed on Tuesday, on the evening of which day they held a meeting, at which Mr. Jonas Browne presided, when resolutions were passed expressive of the warmest thanks to Mr. Glyn, and also to Mr. Madigan, for having contributed to the gratifying result. It is but justice to say, that throughout the whole of this ill-timed dispute—occasioned by the meddling interference of one man, whose experience should have taught him the value of practical engineers as drivers, and treated them accordingly—Mr. Glyn and Mr. Creed have felt the proposed alteration an injustice to the men, and have used their utmost exertions to effect their reinstalment, in which they have at length happily succeeded.

LONDON AND NORTH-WESTERN RAILWAY—DEWSBURY SECTION.—This portion of the company's extension to the north, which was lately opened from the Leeds and Manchester line, near Dewsbury, to Leeds, will be regularly worked by passenger trains on and from the 1st of September.

LEEDS AND THIRSK RAILWAY.—A further portion of this line, extending from Wormald-green, near Ripon, to Weeton, a station between two or three miles from Harewood-bridge, is to be opened for passenger traffic on Friday next, Sept. 1. This will complete nearly 30 miles of the line which will be then open—namely: from Thirsk to Weeton.

"VATES."—ANONYMOUS LIBELLERS.

TO THE SHAREHOLDERS OF THE CALEDONIAN RAILWAY.

GENTLEMEN,—At the last general meeting of the London and North-Western Company, Mr. Glyn (the chairman), when commenting upon a pamphlet, recently published, entitled, "The Bubble of the Age," written for the purpose of injuring the credit of railway companies, and weakening public confidence in their stability, said, that had the pamphlet been anonymous, he would not have noticed it at all. In making this remark, Mr. Glyn only stated what must be the rule with every board of management; for, if they were to deviate from it, they would obviously only encourage fresh attacks and mis-statements from the tribe of scribblers who delight in mischief and calumny, when they can pursue their vocation in concealment; and it would be paying a poor compliment to their constituents, to suppose the possibility of their confidence in the management of their board being shaken or diminished by statements, however plausible, whose authors dare not give them the sanction of their name—whose courage only supports them to the extent of discharging mud from behind a screen, and who do not feel their honour compromised by engaging in such discreditable practises.

I am led to these remarks, by the base calumnies and mis-statements to which the Caledonian board of management has been most vindictively and perseveringly subjected, by a series of anonymous attacks, under a variety of signatures, beginning with "*Henbane Dwining*," who, to the discredit of his profession, hired his pen to a rival company, and ending with the man of many aliases—"Vates," "Monitor," "C.," &c., &c.—a *gentleman* who, knowing that the directors would not stoop to answer him under his masque, continued his attacks with so much effrontery of assertion, that a section of the shareholders in London met to consider them; and a meeting was called for the same purpose in Edinburgh—got up, or aided in being got up, by a member of the Stock Exchange there, conspicuous for his hostility to the Caledonian Company, as displayed in the struggle they had to maintain for possession of the Scottish Central.

Now, the object of these attacks has been twofold—first, to injure the credit of the company with the public, and increase the difficulties which, in common with all railways, it has had to contend against—difficulties under which it must have sunk, but for the energy and unprecedented exertions of the directors, by which they were enabled to struggle on till they opened the line, and within the short space of six months succeeded in bringing it to produce a traffic yielding a weekly revenue of between £5000 and £6000—a revenue which is not *nearly half developed*, and to develop which, and pay off existing obligations, for which the company is bound, the directors took the only course open to them, by issuing preference stock, the value of which to your interests, as a measure calculated to enable the directors to develop the traffic and raise the revenue, is duly appreciated by "Vates," and those he represents, who, accordingly, has been doing his best to obstruct the measure (without success, I am glad to say), and induce you to withhold your assent.

The second ground for attack and censure is the guarantees which your board has undertaken, and which are described as ruinous. As regards those to which you have already assented, it is enough to say that they are paying themselves, and that the most important of them form part of the main line, and are, therefore, absolutely necessary to its existence. Respecting those to which your assent has not been given, suffice to say that they must in the mean time, therefore, be harmless, and that it is but fair to ask that, before you condemn them on the authority of a masked and nameless enemy, you at least give your board the opportunity of stating their views, when you can decide for yourselves, after hearing them, which I understand you will be afforded an opportunity of doing before your assent is asked.

Another object of "Vates" and his tail, is to induce you, at the approaching general meeting, to turn out your board, and replace them by representatives of their selection, an operation which, unless the directors are supported by the shareholders at large, it may not be difficult for a small section to effect, if acting in concert, and which movement, therefore, it concerns you interest to counteract; else the fair prospect we have of a steadily increasing traffic and corresponding revenue, will be scattered to the winds, and the vessel in danger of foundering, if committed to new, unpractised, and rash hands. Indeed, I have cause to know that one of those seeking office in this way is a party who has been active in promoting the agitation.

"Vates" gathers courage as he follows up his course of calumny and falsehood, and in the last production I have seen, ventures on the monstrous insinuation that those behind the scenes have been jobbing in shares. Now, this is going beyond the limits of toleration, and I, therefore, tell "Vates" that, if his remark may be interpreted, he means to insinuate that the directors who are behind the scenes have been practising stock jobbing. I feel at liberty, in the words of Dr. Johnson, to tell him, "*that he lies, and is a scoundrel, because he knows he lies.*" Let "Vates" digest this, and go to dinner with what appetite he may.

It may be asked, who am I who contradict "Vates" so decidedly, and do not add my name as a warrant for my veracity and means of knowledge? This much I answer, that I write without any communication with the directors, collectively or individually, and without their knowledge entirely; that, nevertheless, I have perfect access to information, and that the Editor of the *Scottish Railway Gazette* has full liberty to communicate my name the moment that "Vates" drops his mask, and *writes under his real signature*. Till he does so, he can have no right to call for mine, and will not till then obtain any farther notice from,

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ACCIDENTS.

Discovery of the Miners Lost in Lower Patricroft Colliery, by the Flooding of the River Douglas.—Early on Sunday morning, the bodies of three men and a boy, lost by the flooding of the Ince Union Colliery, by the overflowing of the Douglas, about nine months since, were discovered in the workings, at a distance of between 200 and 300 yards from the pit shaft. The lamps of the unfortunate colliers having been found near to the spot, a clue was thus obtained to the discovery of the bodies. They were in a far decomposed state. After being placed in coffins, they were removed to the Britannia Inn, to await the inquisition before the coroner. Two of them, named Rutter, were, we understand, found clasped in each other's arms, and the other two were very near to them. All appeared to have been aware of the fate which awaited them, and it is feared by many that they were alive some time after the first flooding of the pit.—*Liverpool Mercury.*

Dudley.—H. Bellingham was severely injured while engaged down a pit near the Castle grounds, "plugging up" the powder in the mine, by the sudden explosion of a quantity of that inflammable compound. Among the injuries the poor man has received, we may mention that he has lost the sight of one of his eyes.—On Wednesday, a young man named Paul Burn, the only support of his widowed mother, was severely injured by a fall of coal, while at his work in a pit belonging to Mr. Giles, at Dudley Port. His right arm, which is dreadfully crushed, will, it is feared, be obliged to be amputated.

Thornley Colliery.—As R. Kerr, was repairing the main engine of the colliery, and whilst in the act of warning one of his fellow-workmen of the slipping of a ladder, he was struck by the engine beam, which descended upon him, and crushed him against the spring beams.

The recent Colliery Explosion near Durham.—The adjourned inquest on the sufferers was resumed on Monday last, at Mr. William Burgess's, Menton Colliery Inn, before T. C. Maynard, and a respectable jury. Since the adjournment of the inquest on Wednesday week, another of the boys who had been burnt had died, and the only remaining one of all those injured, is not expected to recover. After a lengthened investigation, the jury returned a verdict of "Accidental Death."

A serious explosion of a steam boiler occurred at the iron foundry of Messrs. Hales, Cobridge, near Burslem, on Friday last, by which one man was killed, and three men and a boy so dreadfully scalded, that it is thought they cannot survive. The engine on the previous evening was ascertained to be in good order, and it is supposed that the calamity must have arisen from some accidental derangement of the safety valve.

Dudley.—W. Large was killed by a fall of coal at Messrs. Russell and Co.'s pit, Netherton.

Pontypool.—B. Bannister and W. Cook were killed by an explosion at the British Iron Company's works.

Risca.—George Sage was killed in the Big Vein Pit, by a fall of roof.

NEW PATENTS.

T. Richardson, Newcastle-upon-Tyne, chemist, for improvements in the condensation of metallic fumes, and in the manufacture of white lead.

W. Young, Queen-street, Cheapside, lamp manufacturer, for improvements in closing spirit and other cans or vessels.

I. Taylor, Stanford Rivers, Essex, gentleman, for improvements in preparing and engraving surfaces; also in the construction of cylinders adapted for engraving, and also in machinery for printing and ornamenting surfaces.

R. Shaw, Gold's-green, West Bromwich, Staffordshire, railway-bar finisher, for improvements in the manufacture of iron into tyre bars, round bars, square bars, and flat bars, T-iron, angle iron, and trough iron.

J. Bethell, Parliament-street, Westminster, gentleman, for improvements in preserving animal and vegetable substances, and also stone, chalk, and plaster, from decay.

A. A. Croll, gas-works, Tottenham, for improvements in the manufacture of gas, and in apparatus to be used in transmitting gas.

H. L. Pattison, Washington-house, Gateshead, Durham, chemical manufacturer, for improvements in manufacturing a certain compound, or certain compounds of lead, and the application of this, and certain other compounds of lead to various useful purposes.

A. B. Woodcock, Manchester, for improvements in steam-engines, and in apparatus for raising, forcing, and conveying water and other fluids.

A. V. Newton, Chancery-lane, Middlesex, mechanical draughtsman, for certain improvements in dressing or cleaning grain, and in separating extraneous matters therefrom. (Being a communication.)

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

A. Bettridge and Co., Birmingham, penholder.

R. Burrows, Ruddington, Notts, regulating apparatus, or stop-gauge, for farming implements.

Lynch and Inglis, Manchester, pressure gauge.

W. Day, King William-street, beer-tap.

R. Weare, Birkenhead, galvanic diffuser.

S. Thewlis and P. Griffith, Warrington, cheese press.

J. Campbell, Beak-street, Regent-street, champagne and aerated water fountain tap.

T. S. Dismore, and G. Dismore, Clerkenwell-green, waistband centre.

W. Armitage, Louth, safety signal light.

S. Messenger, Birmingham, railway signal lamp.—*Mechanics' Magazine.*

GUTTA PERCHA.—This novel material, so famed for its utility, has lately risen to an extraordinary elevation in the metropolis, having reached even to the top of the Monument, from whence visitors to that noted column may look upon a gutta percha tube 190 ft. in length, 3 in. in diameter, and ¼ in. thick. This tube passes up the centre of the Monument from its base to the gallery, at which point it is upheld by a flange, also made of gutta percha. It is intended for the conveyance of water, and is, we understand, highly approved by the civic authorities, being light in weight and economic in price. The above adaptation of gutta percha affords another striking instance of its very general applicability.

IMPORTATION OF ASPHALTUM.—A vessel arrived from Philadelphia, United States, has brought 30 casks of asphaltum as a portion of her cargo. We have no recollection of a previous importation of asphaltum from the United States.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £9 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

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PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. The consequences of neglect, and of the abuse, of mercury are also clearly pointed out. This section is illustrated by 17 coloured engravings.—PART THE FOURTH treats of the prevention of disease by a simple application, by which the danger of infection is obviated. Its action is simple, but sure. It acts with the virus chemically, and destroys its power on the system. This important part of the work should be read by every young man entering into life.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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REVIEWS OF THE WORK.

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